Factors Affecting the Efficiency and Effectiveness of Emergency Procurement in Bangladesh Water Development Board (BWDB)

Dissertation submitted in partial fulfillment of the
requirements for the Degree of
Masters in Procurement and Supply Management

Submitted by:

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Masters in Procurement and Supply Management

BRAC Institute of Governance and Development,
BRAC University

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DECLARATION

I hereby declare that this master's dissertation entitled "Factors Affecting the Efficiency and Effectiveness of Emergency Procurement in Bangladesh Water Development Board (BWDB)" is the result of my own research except as cited in the references.

I also confirm that this report has not been accepted for any degree and is not currently submitted in candidature of any degree.

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CERTIFICATE

This is my pleasure to certify that the dissertation entitled "Factors Affecting the Efficiency and Effectiveness of Emergency Procurement in Bangladesh Water Development Board (BWDB)" is the original work of Partha Pratim Saha that is completed under my direct guidance and supervision. So far I know, the dissertation is an individual achievement of the candidate's own efforts, and it is not a conjoint work. I also certify that I have gone through the draft and final version of the dissertation and found it satisfactory for submission to BRAC Institute of Governance and Development (BIGD), BRAC University in partial fulfillment of the requirements for the degree of Masters in Procurement and Supply Management.

January, 2015

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PARTHA PRATIM SAHA

EXECUTIVE SUMMARY

As the government agency for managing water resources various flood control, drainage and irrigation projects have been accomplished by Bangladesh Water Development Board (BWDB). Beside this at the southern and south-western part of Bangladesh there are embankment for protect the land from saline water. For maintaining the effectiveness of completed projects BWDB has to regularly repair/reconstruct its infrastructure. Each year almost 3500 million taka is being spent by BWDB for operation and maintenance of existing project. Normal repair and maintenance work has been performed mainly during dry season. During flood or other natural disaster different parts of the embankment get damaged. Flood or tidal water intrudes into the homestead and locality. It damages property and crops and becomes threat to health and safety. Immediate action is required to repair/reconstruct damaged embankment within shortest possible time. Almost 350 million taka is being used by BWDB for anticipated emergency procurement each year. Suffering of people in flood affected area intensified in case of time consuming process of emergency work.

This dissertation focuses on emergency procurement in BWDB. The objective of this dissertation is to identify factors affecting efficiency and effectiveness of emergency procurement in BWDB and find out ways of improvement. This is an exploratory research that uses both primary and secondary data. Primary data (qualitative) has been collected from engineers of BWDB working in several projects through questionnaire survey and interviews. Secondary data (quantitative) has been collected from office report of BWDB. From the analysis of the both qualitative and quantitative data the major reasons behind inefficiency and ineffectiveness of emergency procurement have been identified and suggestions about improvement have been compiled.

Emergency is mainly two types, sudden on-set emergencies: where the emergency is unforeseen, or the magnitude of the disaster is greater than the pre-planning anticipated or results in the destruction of the response resources or infrastructure (e.g. the Cyclone AILA). In the event of national disaster initial intervention should be much more reactive. Slow on-set emergencies: where the possibility of a specific event is anticipated and planned for. Separate budget should be ready for emergency procurement. Provision for framework agreement with short notice call off option can effectively mitigate anticipated emergency procurement.

Results of analysis suggest that time is vital for emergency procurement. Extra costs will incur if time wastes during initial and implementation stage of project as scope of procurement may

change with time. Currently Bangladesh government has no policy for emergency procurement and emergency procurement methods of PPR do not cover all aspect of emergency procurement. Lack of manpower and logistics hamper appropriate assessment of emergency requirement. Quick deployment of manpower at urgent location is not always possible again sometimes it may not effective enough.

Emergency procurement delays due to poor reporting channel, absence of proper delegation of authority and lack of coordination. Delegation of authority should be different for emergency procurement that could effectively accelerate procurement. Too much bureaucratic system takes more time for decision making. Again reporting format is not uniform for emergency procurement, policy changes time to time in a arbitrary manner. Complexity arises for this uneven policy change and different reporting format. Efficient communication channel such as web based intranet has to establish for better coordination. Streamlining of procurement process like electronic procurement can reduce unnecessary delay.

Budget constraint in emergency project is a big hurdle to overcome. Fund should be disbursed at due time for timely completion of project. Again real time efficient monitoring should be put in place to eradicate exaggerated requirement, curb misuse of government fund and enhance quality of work.

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ABBREVIATIONS

ADG	Additional Director General
BWDB	Bangladesh Water Development Board
CCEA	Cabinet Committee on Economic Affairs
CE	Chief Engineer
CIDA	Canadian International Development Agency
DG	Director General
DoFP	Delegation of Financial Power
DPM	Direct Procurement Method
GOB	Government of Bangladesh
EE	Executive Engineer
HOPE	Head of Procuring Entity
LTM	Limited Tendering Method
MCQ	Multiple Choice Question
MoWR	Ministry of Water Resources
MS	Mean Score
NGOs	Non Government Agencies
OTM	Open Tendering Method
O&M	Operation & Maintenance
PD	Project Director
PE	Procuring Entity
PPR	Public Procurement Rules
RFP	Request for Proposals
RFQ	Request for Quotation Method
SAE	Sub-Assistant Engineers
SDE	Sub-Divisional Engineer
SE	Superintending Engineer
VFM	Value for Money

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

An emergency is an occurrence of a serious and urgent nature that demands immediate action. It must relate to health, safety or the protection of property. For an emergency procurement, the agency should find an appropriate source and then direct the contractor to proceed. Direct procurement from a supplier reduces delay involved in conducting a routine procurement (e.g. which involves advertising and competitive tendering) and enables delivering the goods or services in time to bring effective service. Agency is to balance the need to act without delay (to save or preserve life, or safeguard buildings or repair critical infrastructure), against meeting their overarching public sector obligations (to be accountable, open, fair, achieve value for money, act lawfully and with integrity).

As the government agency for managing water resources various flood control, drainage and irrigation projects have been accomplished by Bangladesh Water Development Board (BWDB). Beside this at the southern and south-western part of Bangladesh there are embankment for protect the land from saline water. For maintaining the effectiveness of completed projects BWDB has to regularly repair/reconstruct its infrastructure. Each year almost 3500 million taka is being spent by BWDB for operation and maintenance of existing project. Normal repair and maintenance work has been performed mainly during dry season. During flood or other natural disaster different parts of the embankment get damaged. Flood or tidal water intrudes into the homestead and locality. It damages property and crops and becomes threat to health and safety. Immediate action is required to repair/reconstruct damaged embankment within shortest possible time. Almost 350 million taka is being used by BWDB for slow on set emergency procurement each year. Suffering of people in flood affected area intensified in case of time consuming process of emergency work.

In many cases, procurement planning can reduce the need for using emergency procedures. BWDB should prepare and keep current a list of local sources of goods and services that might be needed in an emergency. Information on rates and charges should be established and agreed upon in advance. In addition, “on call,” “as needed” annual contracts for various services may be competitively bid to expedite action, ensure adequate support, and reduce the cost of meeting emergency requirements.

1.2 Objectives of the study

The main research question for this study is whether currently practiced policy, process and procedure of BWDB and public procurement rule 2008 positively improved performance of emergency procurement and what are the limitations for procurement during or immediately after natural disaster. Are these procedure keeping adequate role in achieving 'Project Triangle' (Quality, Cost and Time) or they are creating obstacles (making clumsy) in the procurement functions? Are they adequate to create transparency and accountability in emergency procurement? Is the emergency procurement in BWDB being managed systematically? If there any problems, what are these and how can these be overcome? Also, propose some change in emergency procurement procedure of BWDB and Acts and Rules which could be added to PPA and PPR for the improvement in emergency procurement to ensure efficiency and effectiveness.

There are few hypotheses for my study listed below:

Hypothesis 1: Emergency procurement procedure of BWDB is not efficient and effective.

Hypothesis 2: There are few hindrance in emergency procurement procedure as well as in Public Procurement Rule 2008 for procurement during emergency/natural disaster.

My objective is to find out the way to improvement of efficiency and effectiveness of BWDB procurement during and immediately after emergency/natural disaster.

1.3 Rationale of the study

Emergency procurement of BWDB becomes crucial after natural disaster or after any emergency situation. Time is very important factor in emergency procurement. Delay in emergency procurement is cascade down to project implementation. Due to the delay scope of the project changes as further damage occurred; sufferings of people increases, relief operation lengthen. Delay occurs at various stages of emergency project implementation. Assessment of work may delay due to lack of adequate manpower or logistics, unable to allocate budget at proper time cause further delay. Poorly selected contractor or poor performance of contractor may cause delay. Sometimes after natural disaster labour becomes inadequate as disaster affected people moves to safe location, uncoordinated relief distribution creates artificial shortfall of labour. Quality becomes hard to control due to urgency of work or rapid implementation.

Till today Bangladesh government has no emergency procurement policy. PPR-2008 has different procurement method with some provision of emergency procurement. Lack of policy, lack of delegation of authority makes emergency procurement difficult. Money gets wasted due

to delay in project completion. This research will try to identify current problems in emergency procurement and will suggest the ways of improvement so that wastage of public money and sufferings of people can be reduced.

1.4 Scopes and limitations

The study is primarily focused to explore the reality of the emergency procurement in BWDB. This study will give a clear indication of the necessity of policy, guideline and framework for emergency procurement. This study will also identify the drawbacks and limitations of existing emergency procurement and will suggest necessary corrections to overcome the problems.

There are some limitations and constraints on the way of doing this research work. In our country, there are not much research works relating to public procurement like developed countries. The study was based on both primary and secondary data. Scarcity of related academic materials and studies on the subject area in the Bangladesh context was also a major constraint. Moreover time is very short for this research work.

1.5 Chapter outline

The whole research work is presented in five different chapters. The first chapter is the introduction chapter; which gives an outline of the general background of the emergency situation faced by BWDB. This chapter also explains the objective of the work, rationale of the study and scope and limitation.

The second chapter is the literature review chapter; Literature review related to Procurement Cycle, Value For Money in public procurement, time and cost overruns, efficiency and effectiveness, causes contributing to time variance.

The second chapter is the research methodology of this thesis; the main topics included in this chapter are data sources, sample design, questionnaire design, questionnaire content, pilot study data collection, data analysis and report writing.

The fourth chapter is comparison of different procurement procedure. This chapter consists of rules of PPR and its provision for Emergency Procurement. Emergency procurement policy of developed country has been discussed here.

The fifth chapter is the Results and discussion chapter; which expresses the collection of data using the methodology previously explained in chapter two. Findings and discussion for interpretation of analyzed data is presented in this chapter.

The sixth and final chapter is the conclusions and recommendations chapter; which summarizes the findings and analysis to explain the expediting the procurement process during emergency.

CHAPTER TWO: LITERATURE REVIEW

2.1 Procurement cycle

The Procurement Cycle encompasses the timeframe between the identification of a need and the ultimate award of a contract. It can also encompass the contract management process. The standard steps of the procurement cycle can be identified as follows:

2.1.1 Need Identification

The procurement cycle begins with the identification of a need which creates a requirement. A need to cross a body of water creates a requirement to build a bridge, a ferry, and so on.

2.1.2 Procurement Planning

Once needs are defined and approved, procurement planning begins. Some important questions to consider at this stage are: (i) when are specific requirements needed? (ii) Are there any requirements on the critical path? (iii) Are there any dependent requirements? (iv) What are the different procurement methods that will be used? (v) What is the average lead-time for each procurement method?

At this stage it is crucial for a procurement practitioner to get involved in order to work with the project implementing entity or other government entities to develop a procurement plan that takes into account the most appropriate procurement method for each requirement considering the budget and urgency of need.

2.1.3 Procurement Requisition Processing

The first step in processing a procurement requisition is to determine what the requesting entity wants. This is done by reviewing specifications or description of Goods, Services or Works required by the requesting entity. Such information should ideally be clearly expressed in the procurement requisition. There must be sufficient detail in the description to ensure that all prospective bidders or service providers have essentially the same understanding of the requirement. If the specifications are clear the bidding process can begin, if not, the procurement practitioner must seek clarification in order to finalize the bidding or proposals request documents accordingly.

2.1.4 Determine Procurement Method

Once the requesting entity’s requirement is clearly defined, the procurement practitioner must determine the appropriate procurement method to fulfill the requesting entity’s need in a most

expeditious and cost-effective manner. This should ideally be done during the procurement planning stage, and the requirement considered in the procurement plan; however, if this was not the case, at this point the procurement method needs to be determined.

2.1.5 Prepare and Publish Bidding/Proposal Documents

Once the procurement method is determined, the next step is to begin the bidding process with the preparation of the bidding or proposal request documents. The procurement practitioner prepares the bidding/proposal request documents and then (after obtaining the necessary clearances to advertise the requirement) invites vendors, suppliers, contractors or consultants (firms or individuals based on the requirement) to submit bids/proposals. Such advertisement may be done locally and/or internationally depending on the governing procurement guidelines. Prospective bidders, upon request, will be given or sold a formal bidding/proposal request document containing all the information required to successfully compete for the fulfillment of the requirement, and, most importantly, to successfully prepare their bids/proposals for submission on a date specified in the bidding/proposal request documents. In the case of shopping requirements, which are considered non-competitive procurements, a request for quotation is sent to three or more prospective bidders from a list of known sources of the goods/services being procured.

2.1.6 Pre-Bid/Proposal Meeting and Site Visit

Pre-bid meetings for works procurement are held alone or in conjunction with a site visit. Preproposal meetings are held primarily for complex requirements. The purpose of the pre-bid/ proposal meeting is to clarify the bid documents or the Request for Proposals (RFP). Bidders/Consultants are invited to such meetings after the bid/proposal documents have been advertised for a short period, allowing sufficient time for prospective bidders/consultants to 12 become familiar with the requirement. Pre-bid/proposal meetings are programmed during the preparation phase and are mentioned in the bidding/proposal request documents. If there's no mention of such meeting in the bidding/proposal request documents, such meeting is not held unless an amendment (addendum) is made to the bidding/proposal documents prior to scheduling the meeting. Sometimes, as a result of the site visit/pre-bid meeting there might be a need to extend the bid submission date by way of an Addendum to the bid document to give bidders sufficient time to address issues arising as a result of the site visit and pre-bid meeting.

2.1.7 Bid/Proposal Submission and Opening

After the pre-bid meeting, one of the following is a natural consequence:

(i) the selection process continues to the bid submission and opening date, as planned,

(ii) the submission date is extended by addendum to give bidders a reasonable amount of time address issues raised during the site visit and pre-bid meeting, or

(iii) the requirement is altogether cancelled by the Client.

Assuming the process continues as expected, the bid/proposal submission and opening will follow.

The opening event is a prelude to the evaluation process given that an initial summary examination of the documents received should take place to determine compliance with the submission requirements. Any bids/proposals received after the pre-announced bid/proposal submission date and time, should be rejected and not considered for further evaluation. This is the only circumstance that could lead to the rejection of bids/proposals during the opening event. For the bid/proposal opening a checklist is prepared. Attendance is also taken and, in the case of bids for goods and works procurement, the bids price is read out and recorded on a board for all attendees to see and record at their discretion. The preliminary examination of the bids/proposals is left for actual bid/proposal evaluation which is carried out by an approved evaluation panel.

2.1.8 Bid/Proposal Evaluation

Before the bid or proposal evaluation takes place, an evaluation panel is formed and approved. Ideally, to create a separation of functions, procurement practitioners should advise, oversee and/or assist with the drafting of the evaluation report, but they should not be members of the evaluation panel. Membership of such a panel should be determined based on the qualifications of the prospective evaluators. It is preferred that evaluation panel members should have knowledge and related experience and, at least, one member, preferably from the requesting entity, invited. Conflict of interest is a serious issue that must be taken into account in the evaluation process, such that all prospective members of the evaluation panel should sign a declaration of impartiality and confidentially wherein they are expected to declare absence of any family of business ties with the bidders/consultants that submitted bids/proposals. As mentioned above, after the initial examination done during the bid/proposal opening, a preliminary examination of the bids/proposals is done to determine, among other things, the responsiveness of the bids/proposals to the bid/proposal documents. Thereafter, a detailed examination of the bids/proposals is carried out as per the pre determined criteria.

2.1.9 Award Recommendation

The contract award recommendation resulting from the evaluation and scoring of bids/proposals leads to a request for clearance/no-objection to award the goods/works contract (depending on the requirement) or to begin negotiations with the selected consultant, in the case of consulting services. Upon concurrence and approval/no-objection of the award recommendation, in some cases Intent to Award is prepared and published.

2.1.10 Contract Negotiations

In the case of consulting services, the award recommendation by the evaluation panel is contingent upon a successful negotiation of the contract with the selected consultant (firm or individual). Thus, the award recommendation is in fact a recommendation to initiate contract negotiations with the selected consultant. Contract for goods and works procurement are not usually negotiated except under direct procurement method.

2.1.11 Contract Award

For goods and works procurement, contract award takes place with the notification of the responsive bidder with the lowest evaluated price. Such notification is done by way of a formal letter of acceptance to which a response must be received within a stipulated period of time. In the response to the client the selected bidder must also declare their mobilization or timeframe within which they intend to begin setting up and taking over the site to begin works (this is in the case of works). For goods there isn't such mobilization period, so once the bidder signs the contract, the delivery schedule becomes effective. In some cases, depending on the legislation, the notice period is also used as a "standstill" period of sorts which is very similar to the intent to award period mentioned above in step 9, where the selected consultant are allowed a period of days to submit any claims if they consider that they may have suffered loss or injury due to a breach of an obligation imposed on the procurement entity by the present regulatory document. Otherwise, after the standstill period the contract is signed between the contracting parties.

2.1.12 Post Contract Award Considerations

After contract signing, unsuccessful bidders/consultants have the right to request debriefing by the procurement entity. The debrief can be done orally or in writing, and essentially gives bidders/consultants an indication of the strengths and weaknesses of their bids/proposals, which should help them understand the reasons why they were not selected. In some cases, this debriefing is done during the standstill period, but this depends on the approved procedures. Debriefing also helps bidders/consultants to improve the quality of their bids/proposals. Contract award is the beginning of the contract administration phase where the implementing

entity will supervise the performance of consultants and the supervising engineer will oversee and report on the works contractor performance. In the case of goods, given that finished goods are usually being received, contract administration is limited to inspecting goods received to ensure they comply with requirements, and are fit for their intended purpose.

2.1.13 Contract management phase (After the contract is awarded)

Includes activities such as progress monitoring, delivery follow-up, payment action, monitoring, exercise optional periods/quantity, etc. During this phase, various activities may arise such as: 'Kick off' meeting (Meeting minutes), task authorizations, follow-up on the progress of the work, resolve disputes and amend the contract

2.1.14 Post contract phase (Close out, warranty and audit)

Includes file final action. During this phase, some activities may arise such as: final amendment on contract, approval on last payment, final payments, proof of delivery, return contract financial security and holdbacks, initiate an audit of a cost-reimbursable contract, make sure that all crown-owned intellectual property and government furnished equipment are returned, address contractor claims, receive the contractor performance, client satisfaction, ensure your file is properly documented and put away your file.

2.2 Public Procurement

Office of the Government Commerce, UK has defined public procurement as the process whereby public sector organizations acquire goods, services and works from third parties. It includes much that supports the work of government and ranges from routine items (e.g. stationery, temporary office staff, furniture or printed forms), to complex spend areas (e.g. construction, Private Finance Initiative projects, aircraft carriers or support to major change initiatives). In the Public Procurement Act 2006, the term “procurement” itself has been broadly defined to include purchasing or hiring of goods or acquisition of goods through hiring and purchasing, execution of works and performance of any services by any contractual means (Hoque, 2010).

2.3 Value for Money (VFM) in the public procurement

Achieving Value for Money (VFM) is important for any Public Procurement. In the “Construction Procurement Manual” of the Scotish Government Publication, the prime objective of public procurement is defined as to achieve VFM - the optimum combination of whole life cost and quality to meet the customer's requirement. VFM does not necessarily mean accepting the lowest bid; rather quality, as well as price, must be considered when appointing consultants and contractors. The greatest opportunity for achieving VFM occurs at project

inception. Correct project definition is essential to meet the users' needs while achieving VFM. VFM is more than the lowest cost. VFM increased benefits to the end users of a service, greater certainty of the financial outcome due to less exposure to risk and the delivery of a service at a specified level for a lower cost.

2.4 Definition of time and cost overruns, efficiency and effectiveness

2.4.1 Time overruns

Time overruns is defined as the extension of time beyond planned completion dates traceable to the contractors (Kaming et al 1997). Delays are incidents that impact a project's progress and postpone project activities; delay causing incidents may include weather delays, unavailability of resources, design delays, etc. In general, project delays occur as a result of project activities that have both external and internal cause and effect relationship (Vidalis et al 2002).

Choudhry (2004) and Chan (2001) defined the time overruns as the difference between the actual completion time and the estimated completion time. It was measured in number of days. Project delays are those that cause the project completion date to be delayed (Al- Gahtani and Mohan 2007). From above, time overruns is defined as the time increased to complete the project after planed date, which caused by internal and external factors surrounded the project.

2.4.2 Cost overruns

Cost overrun is defined as excess of actual cost over budget. Cost overrun is also sometimes called "cost escalation," "cost increase," or "budget overrun." (Zhu et al 2004). Cost overrun is defined as the change in contract amount divided by the original contract award amount. his calculation can be converted to a percentage for ease of comparison (Jackson' 1990).

Cost overrun = (Final Contract Amount – Original Contract Amount) / (Original Contract Amount)

Choudhry (2004) defined the cost overruns as the difference between the original cost estimate of project and actual construction cost on completion of works of a commercial sector Construction project.

2.4.3 Efficiency

Efficiency is measured in terms of how economically the organisation's resources are utilized in providing a given level of stakeholder's/customer's satisfaction. It is the relationship between inputs and outputs achieved. The fewer the inputs, both goods and services, used by an organisation to achieve a given output, the more efficient the organisation is. It essentially

means that one should complete tasks without waste of inputs. If product ‘y’ normally takes 2.0 units of item ‘x’, in its manufacture, and one can manage to provide it using only 1.8 units, then he has been efficient. If it takes 2.2 units of item ‘x’, he has been inefficient.

2.4.4 Effectiveness

Effectiveness is measured by the extent to which stakeholder’s /customer’s requirements are met over time. It is the degree to which objective or target is met. Effectiveness generally means that one can accomplish tasks that fit in with overall objectives. It is not effective to manufacture units of product ‘y’ if one is already overstocked with it, no matter how economically or efficiently one does it. Similarly, it is not effective if one has product ‘y’ in stock but cannot convey it promptly to the internal or external customers who need it.

2.5 Discussion on the major causes contributing to time variance

The consequences of construction time delay when undertaking a public sector building project affects all project parties, with issues such as extra cost. Although various methods for mitigating the problem have been developed in the previous studies, the limitation of using these methods raises the concern that probably the causes contributing to the time variance has not been adequately addressed. To investigate the causes, five interview workshops were arranged with relevant personnel in the public sectors. These discussions led to the identification of the following major categories of causes of time overruns (Wang et al 2003).

2.5.1 Policy-related Causes

Essentially, public sector projects are sponsored or endorsed by the government. The implementation of this type of project must be in line with governmental policy. On the other hand, governmental policy has to incorporate multiple dimensional interests, in particular, the public interests. These interests are multiple, dynamic and complicated, and in order to satisfy these interests, changes in policy are unavoidable. A typical example is the existence of many prolonged office-building projects in a number of cities in China, mainly due to the change of governmental financing policy in late 1990.

The government either postponed or reduced the financial commitments to many building projects in an attempt to depress the ‘over-heated’ construction market. As a result, many projects were delayed. New policies are often introduced in the middle of a project’s construction process, for example, additional safety measures, or new quality monitoring systems. The implementation of new policies will normally involve investment from the project

parties. The process of identifying that should take what responsibility in order to implement these policies can substantially delay project progress (Moungrous et al 2003).

2.5.2 Owner-related Causes

A public sector project generally involves more changes, thus inducing delays in the process of implementing the project. The public sector owner in general, is less active in pushing project progress when compared with a private sector owner. There is a lack of skill in controlling construction programming.

The bureaucracy exists in all procedures that a public sector project has to go through, which further induces progress delay. A public sector owner has to work with many governmental departments when changes to a project occur. He has to spend a substantial amount of time communicating with many other governmental departments, which again induces project delays (Wang et al 2003).

2.5.3 Design-related causes

The discussion shows that insufficient or incorrect design data is a major reason contributing to project delays. The problem happens because of the owner's poor briefing, insufficient time allowed for design, the architect's poor skill and the owner's quests for changes during the construction process (Vidalis et al 2002).

2.5.4 Contractor-related Causes

There are many ways in which a contractor's performance can delay a construction project. For typical examples, main contractors often have various disputes with subcontractors and materials suppliers, which can cause major delays. In fact, such disputes are considered a major cause for project delay. Other factors, such as the contractor's insufficient financial resources, mistakes in making decisions on progress control and the overall inability when performing management functions, are also possible reasons for causing project delays.

It is interesting to note that, a main contractor will sometimes deliberately demand an unreasonably short contract period although the contractor understands that the completion on contract time is impossible. In this situation, the contractor only wants to secure a contract and thus agrees with an unrealistic contract period imposed by a project owner. Consequently, project delay cannot be avoided (Takim et al 2004).

2.5.5 Consultant-related Causes

The consultant engaged in a building project can affect the progress of construction programming through various monitoring measures such as issuing certificates, and endorsing the satisfaction of certain activities in the construction process. Progress delay can happen if these monitoring measures are not implemented properly. This appears a typical problem in the mainland of China where a professional called the 'supervision engineer' is adopted for supervising construction performance, particularly in committing public sector projects. Supervision engineers are given the authority to endorse the satisfaction of certain procedures such as piling, steel fixing, the quality of key materials, before the construction programming can proceed forward. It has been found that supervision engineers often cannot endorse these procedures in time, thus construction delays are caused (Wang et al 2003).

Enshassi et al 2003 found that the financing group of delay factors was ranked the highest and the environment group was ranked the lowest. In order to improve the situation, there is a need to pay more attention to the financial issues in the local construction industry, and there is a need for betters communication and coordination with international funding agencies. The construction industry in Bangladesh should also adopt innovative management techniques, team building and value engineering in orders to be more efficient and effective. A constructive team building approach between owners, consultants and contractors will reduce delays and improve the quality of the work.

2.6 Procurement in BWDB

Like other government departments and organizations, Bangladesh Water Development Board (BWDB) under Ministry of Water Resources (MoWR) uses PPA 2006 and PPR 2008 in its procurement purposes after the enactment of the Acts and Rules. Bangladesh Water Development Board is funded by central Government of Bangladesh (GOB). It also collect fund from irrigation activity by supplying irrigation water to farmers, which is very nominal. BWDB also get fund from various donors like Government of Netherlands, Canadian International Development Agency (CIDA) etc. BWDB is the major organization in water resources sector and its activity is spread all over the country. BWDB gets a huge budget every year and most of which are being used in procurement.

To understand procurement functions in BWDB clearly its organizational structure need to be examining carefully. The organization is headed by a Director General (DG) an equivalent rank of Additional Secretary of Ministry. There are five Additional Director Generals (ADG) under the DG of which three are promoted from Chief Engineers to ADGs and two come from the

Ministry (ADG Finance and ADG Administration) in deputation. The other three ADGs are Additional Director General (Operation & Maintenance-1), Additional Director General (Operation & Maintenance-2) and Additional Director General (Planning). There are seven Zones headed by Chief Engineers (CE) and 18 Circles headed by Superintending Engineers (SE). There are 54 Operation & Maintenance Divisions (O&M Divisions) headed by Executive Engineers (EE) and 162 Sub-Divisions headed by Sub-Divisional Engineers (SDE). In each Sub-division there are 3 Sub-Assistant Engineers (SAE) under a Sub-Divisional Engineer. Sub-Assistant Engineers are the head of Section offices, the smallest administrative unit of BWDB. There are about 935 Engineers and about 8000 support staffs in these offices. There are also various directorates and support services offices such as Finance Directorate, Accounting Directorate, Establishment Directorate, Training Directorate, Personal and Staff Development Directorate etc. headed by a Director. There are also Chief Planning, Chief Monitoring, Chief Design offices to provide support all over the country in procurement activities.

The procurement function in BWDB is decentralized. In many years ago, procurement were being done in centrally, there were central ware houses (storage) for this purpose. There are some both advantages and disadvantages of centralized and decentralized procurement.

Economy of scale, standardization of items, standard and uniform procedure could be maintained in centralized procurement system but local demand fulfillment, decentralization of power and employee empowerment could not be achieved in centralized procurement system. That's why procurement is decentralized in course of time. Executive Engineer is the procuring entity for most of the procurement functions as they are the division head of important administrative unit O&M Division. There is also individual Project Directors (PD) for development projects. Most cases these projects are funded by development programme. There are three category project directors (Category A, B, C) according to project fund. Category A Project Director (PD, Category A) is for big funded projects and Chief Engineers and above is the Project Directors. Category B Project Director (PD Category B) is for medium projects and Superintending Engineers or equivalent ranking officers is the Project Directors. Category C Project Director (PD, Category C) is for small projects and Executive Engineers or equivalent ranking officers is the Project Directors. Project Directors are categorized according to Delegation of Financial Powers (DoFP).

2.7 Emergency Procurement in BWDB

Currently practicing procedure of BWDB for very emergency procurement through DPM is after emerging of emergency situation procuring entity (Executive Engineer) reports about the situation to his higher authority (from SE to DG) through fax. Again a copy of this report also sends to MoWR. After receiving the report and considering the situation Superintending Engineer declares that the work to be executed on emergency basis. To engage contractor for emergency work through DPM administrative approval from HOPE (DG) is required. A monitoring team formed by HOPE visits the site and report to HOPE on the merit of the emergency work for approval. Again after completion of emergency work that monitoring team also visits the site to report on amount of executed work. After approval of this report by DG fund for emergency work is allocated.

Since difference between emergency procurement and normal procurement under OTM and LTM is time reduction for tender publication. Emergency procurement through OTM and LTM is carried out by approving notesheet for this procedure from HOPE. Other steps for emergency procurement through OTM and LTM as usual like normal condition.

2.8 Development of conceptual framework

A conceptual framework has been developed which is depicted by a model below in Figure 2.1.

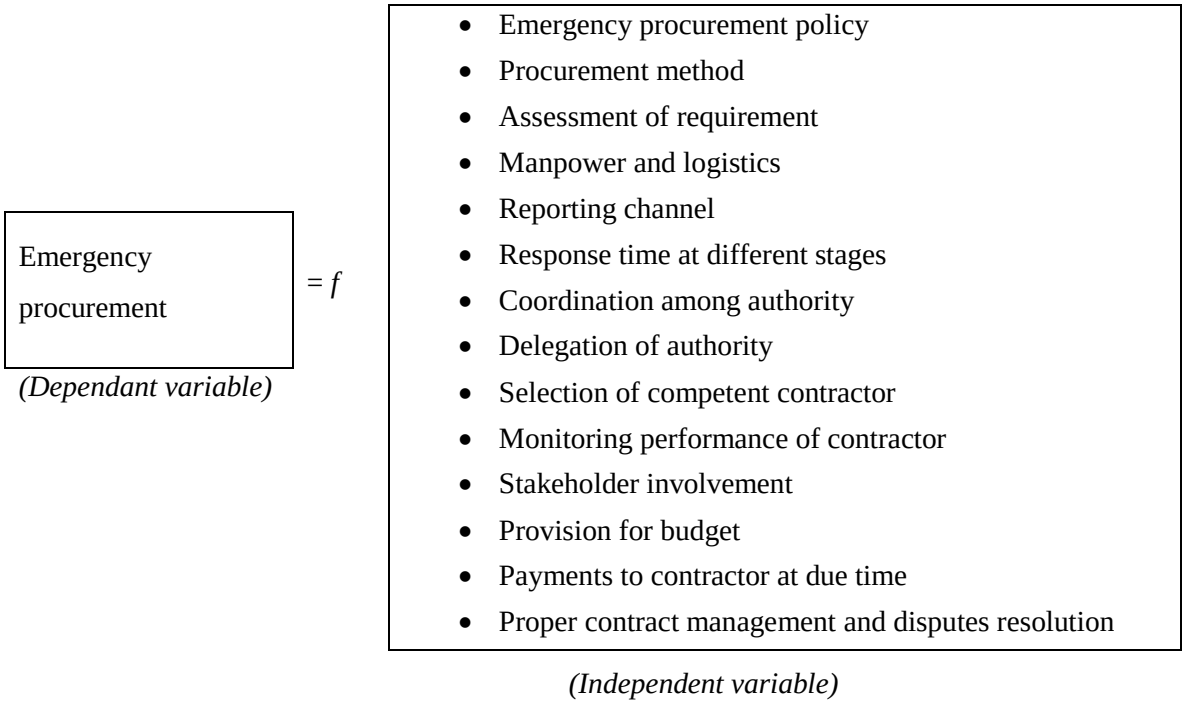

Figure 2.1 A model of emergency procurement

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Data sources

The data source has chosen carefully to ensure that it can address the study question, that it has a sufficient number of observations, that key variables are available. For necessary data and information for the study, both primary and secondary sources are used. Both qualitative and quantitative approach has been used to understand the perception of participants in regarding to existing performance of emergency procurement and find out the possible ways for improvement.

Primary data (qualitative) has been collected by in-person and telephone interviews, surveys through electronic mail and computerized questionnaires from engineers working in several projects of BWDB. The researcher has talked to the participants about problems regarding the emergency procurement. After the exchange of general idea of the research objectives, the questionnaire was given to them. They were requested to fill the questionnaire based on the practical experience they had regarding the emergency procurement.

Secondary data (quantitative) has been collected from official records such as letters and reports, BWDB website about the emergency procurement after natural disaster.

3.2 Sample design

A sample design is the framework, or road map, that serves as the basis for the selection of a survey sample and affects many other important aspects of a survey as well. Several engineers of BWDB involve in the process of emergency procurement has been selected as research sample since this research focuses on efficiency and effectiveness of emergency procurement. Some emergency projects taken by BWDB after cyclone AILA also have been selected. Emergency projects at Dakop and Koyra upazila of Khulna district and Assasuni and Shyamnagar upazila of Satkhira district after cyclone AILA have been selected. These emergency projects show representative scenario after natural disaster like cyclone and tidal surge.

3.2.1 Sample Size

Wood and Haber (1998) defined the sampling as the process of selecting representative units of a population for the study in research investigation. A sample is a small proportion of a population selected for observation and analysis. The samples were selected randomly from Procuring Entities and high officials of Bangladesh Water Development Board. The size of the

sample of respondents is fifty two for this study. Emergency projects (closure) at four upazilla taken after AILA by BWDB have been selected for this study purpose.

3.2.2 Population

The population of this research included Procuring Entities and high officials of different sectors such as Superintending Engineer, Executive Engineer, Sub-Divisional Engineer and Assistant Engineer of Bangladesh Water Development Board.

3.2.3 Sample Characteristic

All respondents are experienced in public procurement and they are familiar with emergency procurement of BWDB. Most of the respondents have work experience in different projects of BWDB like coastal area, irrigation project, river bank protection project etc. Their versatile work experience in BWDB facilitates to find out short fall of emergency procurement and provide ideas about probable solution. Among fifty two respondents there are two Superintending Engineer, fifteen Executive Engineer, twenty seven Sub-Divisional Engineer and eight Assistant Engineer. Their experience in public procurement are shown in table 3.1.

Total experience in public procurement	***Sample size***
below 5 years	8
5-10 years	27
10-20 years	12
more than 20 years	5
Total sample size	52

Table 3.1 *Public procurement experience of respondents*

Again emergency procurement sub-projects selected for study from coastal area in Khulna and Satkhira district which was taken by BWDB after cyclone AILA. These emergency sub-projects give representative scenario after any cyclone or tidal surge in southern portion of Bangladesh. Emergency procurement sub-projects selected for this study are shown in Table 3.2.

District	*Upazilla*	*Emergency sub-project after AILA*
Khulna	Dakop	21
	Koyra	33
Satkhira	Assasuni	12
	Shyamnagar	13
Total sample size		**79**

Table 3.2 *Emergency sub-projects selected for study*

3.3 Questionnaire design

A questionnaire was developed to assess the perceptions of respondents regarding effectiveness and efficiency of emergency procurement and causes and effects of delay in emergency work. Factors influencing time and cost overruns in emergency work in BWDB were first examined and identified through a relevant literature review and by conducting a pilot study that sought advice from experienced practitioners. Considering the conditions and circumstances related to emergency work which experienced by BWDB, respondents were asked to give their perception regarding reason behind inefficiency and lack of effectiveness of emergency procurement and probable solutions to improve emergency procurement performance.

3.4 Questionnaire content

The questionnaire included three parts that related to the factors affecting the efficiency and effectiveness of emergency procurement in BWDB. These parts are general information of the respondents, opinions regarding emergency procurement, factors influencing efficiency and effectiveness of emergency procurement of BWDB. Four questions were prepared asking for general information about respondents such as the name, designation, work experience and procurement experience. Second part of questionnaire consists of 12 questions related to emergency procurement considering time overruns and cost overruns and opinion regarding emergency procurement policy and usefulness of PPR related factors. Third part of questionnaire consists of 23 factors; identified from the literature review, influencing efficiency and effectiveness of emergency procurement of BWDB (The questionnaire is included in ANNEXTURE -A).

3.5 Pilot study

These structured questionnaires should be based on a carefully prepared set of questions piloted and refined until the researcher is convinced of their validity. Therefore the pre-testing is an

important stage in the questionnaire design process, prior to finalizing the questionnaire. It involves administrating the questionnaire to a limited number of potential respondents and other knowledgeable individuals in order to identify and correct design flaws. For this research an English version of questionnaire was tested in order to make sure that the questions were easily understood. The test was made by distributing five drafts questionnaire among high officials, such as, executive engineer, sub-divisional engineer and assistant engineer of BWDB. The test enabled the researcher to remove any items that will not produce any usable data. Pilot investigation also helped to assess the adequacy of the research design and the instruments to be used for data collection. In general, the experts agreed that the questionnaire is suitable to achieve the goals of the study.

3.6 Data collection

Primary data (qualitative) has been collected from engineers working in several projects of BWDB by face -to -face interviews, telephone interviews, surveys through paper -pencil -questionnaires and web based questionnaires. Secondary data (quantitative) has been collected from official records such as letters, reports and BWDB website.

3.7 Data analysis

Data Analysis is the process of systematically applying statistical and/or logical techniques to describe and illustrate, condense and recap, and evaluate data. In order to be able to select the appropriate method of analysis, the level of measurement must be understood. For each type of measurement, there is/are an appropriate method/s that can be applied and not others. After collecting the raw data of questionnaire, the data entered into computer spreadsheet, Microsoft Excel program is used to perform the required analysis. The graphical representations of the data/answers in the form of "pie chart" have been given for easy understanding of the responses**.** In this research, ordinal scales were used to get perception of respondents about emergency procurement of BWDB. Ordinal scale is a ranking or a rating data that normally uses integers in ascending or descending order. The numbers assigned to the agreement or degree of influence (5, 4, 3, 2, 1) do not indicate that the interval between scales are equal, nor do they indicate absolute quantities. They are merely numerical labels. The weighted average is used to get the result. Microsoft Excel has been used for calculation and constructing pie charts and graph. Both the quantitative and qualitative data have been analyzed to identify the current performance of emergency procurement and suggest probable solutions to improve emergency procurement performance of BWDB.

3.8 Report writing

Collected and considered facts are stated in report to give clear and concise information about the subject matter of the report. Collected data interpreted into the findings. The report is composed of chart, graph, statics and verbal statement of findings. Microsoft Word and Excel have been used for writing the report. The dissertation has been written in English in A4 sized paper with 1.5 line spacing. ‘Times New Roman’ font has been used in writing the report.

CHAPTER-FOUR: DIFFERENT PROCUREMENT PROCEDURE

4.1 Public Procurement Rules 2008

4.1.1 Introduction

Forms 2908 and 2911 are two forms that have been using for the purpose of public procurement processing. These forms were introduced by the British Colonial govt. These documents were used by all the public procurement since independence of Bangladesh. The first uniform and standard regulation was prepared and issued by the government and made effective in September 2003 under the title ―The Public Procurement Regulation 2003. After that parliament had passed the Public Procurement Act'2006. Subsequently, the public procurement rule was published at 24th January 2008.

According to PPR there are five (5) ways for procurement of methods of procurement for goods and related services, works, physical services. Methods are:

1. Use of Open Tendering Method in the Procurement of Goods, Works, etc.
2. Use of the Limited Tendering Method.
3. Use of Two-Stage Tendering Method.
4. Use of Request for Quotation Method (RFQ).
5. Use of the Direct Procurement Method.

4.1.2 Use of Open Tendering Method

The open Tendering shall be the preferred method of Procurement for Goods and related Services, Works and Physical Services, unless the threshold or special circumstances relating to a specific requirement make it more appropriate for one of the other Procurement methods to be used.

Condition of this Method:

- The advertisement should be published two widely circulated national daily (one Bengali and one English)
- The minimum time allowed for Tenderers to prepare and submit their Tenders for Goods, Works and Physical Services shall not be less than as specified in Schedule II,

provided that the Tender Documents are ready for sale and made available by the date of publication of the advertisement.

According to Schedule II the time limits are

- Not less than fourteen (14) days for Procurement up to Tk. 20 million
- Not less than twenty-one (21) days for contacts above Tk 20 million and up to Tk. 50 (fifty) million,
- Not less than twenty-eight (28) days for contacts above Tk. 50 (fifty) million,
- Not less than fourteen (10) days for emergency Procurement following a catastrophe,

Provision for Emergency Procurement: The time limit was 14 days and reduced to 10 days by amendment. There is another provision In the case of an urgent national need of Procurement the Government may, if so recommended by the Cabinet Committee on Economic Affairs (CCEA), reduce the time for Procurement processing.

4.1.3 Use of the Limited Tendering Method

(1) A Procuring Entity may undertake Procurement by means of Limited Tendering Method in the following circumstances, namely –

(a) when Goods and related Services and Works and physical Services by reason of their specialized nature such as aircraft, locomotives, specialized medical equipment, contraceptives, telecommunication equipments , silos, ports, harbours etc., are available only from a limited number of qualified potential Suppliers or Contractors ; or

(b) when there is an urgent need for Procurement of Goods, Works or Services and appear as such that open national or international competitive Tendering would be impractical.; or

(c) when the circumstances giving rise to the urgency under Sub Rule (1) (b) were neither foreseeable by the Procuring Entity nor caused by delay on its part; or

(d) when the Government establishes a policy to standardize on a certain number of brands to cut down spare parts stock requirements and maintenance costs such as computers, laboratory equipment, research equipment.

(2) The Procuring Entity may invite Tenders from enlisted Suppliers or Contractors when required time and administrative cost for going through Open Tendering would be high compared to the value of the Procurement subject to the threshold specified in Schedule II.

The limited tendering method allows the procuring entity to procurement of works and goods during urgent situation even without advertisement. The rule 64(2) and 64(3) of PPR are

- Procuring Entities, who maintain updated lists of enlisted potential Suppliers or Contractors, for Procurement under Rule 63 (2), invite Tenders from those enlisted Suppliers or Contractors.

- In addition to invitations under above rule, advertisement in the Procuring Entity‘s website, if any, and where applicable a parallel advertisement in brief in the local press is recommended to increase competition and transparency, if the objective for using this method, i.e saving time and money, is not defeated through such advertisement

At emergency condition the time is critical factor. So procuring entity may avoid to advertisement. But for the use of this method the procuring entity have to take prior permission from the head of the procuring entity (HOPE) or an officer authorized by him or her.

4.1.4 Use of Two-Stage Tendering Method

A Procuring Entity may use this Method in the following circumstances

- In the case of turnkey Contracts or contracts for large complex facilities, such as the supply, installation and commissioning of processing plants, or works of complex nature or communication technology etc.

- The use of the word ‘complex’ in describing the nature of the items to be procured under Two-Stage Tendering Method covers Procurement requirements for which it may not be in the best interests of the Procuring Entity to prepare complete technical specifications in advance because of rapidly changing technology, and also Procurement requirements for which the Procuring Entity lacks the capability to prepare a full technical specification because alternative technical approaches may be available, but not within the knowledge of the Procuring Entity.

This method has very limited opportunity for use in case of emergency.

4.1.5 Use of Request for Quotation Method (RFQ)

A procuring entity may use of this method for the following circumstances

(1) A Procuring Entity may undertake Procurement by means of the RFQ for readily available in the market standard off-the-shelf Goods and related Services, low value

simple Works and physical Services, provided that the estimated value of such Procurement shall not exceed

- Tk. 200,000 (two hundred thousand) in each Procurement up to annual aggregate amount of Tk. 1,000,000 (ten hundred thousand) for Goods and related Services

- Maximum Tk. 500,000 (five hundred thousand) in each Procurement up to annual aggregate amount of Tk. 2,000,000 (twenty hundred thousand) for Works and physical Services

(2) The Head of the Procuring Entity shall strictly control the use of the RFQ Method in order to ensure that there is no abuse and that its use by Procuring Entities is restricted to the items specified in this Rule.

(3) A decision to use RFQ Method shall be approved in writing by the Head of the Procuring Entity or an officer authorised by him or her unless the RFQ method was scheduled for the said object of Procurement in the Procurement Plan approved by the HOPE or authorized officer by him or her.

(4) In deciding or justifying the use of the RFQ Method, the following shall be considered -

- Procuring Entities shall not use the RFQ Method as means to either bypass more competitive methods of Tendering or split large potential contracts into smaller ones solely to allow the use of this method.

- the RFQ Method should not require complex Documentation or all the formalities of a full Tendering process.

(5) Quotations for low value simple Works or physical Services may be requested in the form of –

- unit rate prices, provided quantities can be estimated with a reasonable degree of accuracy; or

- “cost plus fee” arrangements, when quantities cannot be reasonably determined or estimated in advance; or

- a lump sum, if the Procuring Entity has prepared an accurate cost estimate for the Works or physical Services.

(6) A Procuring Entity may engage in Procurement by means of RFQ Method for Procurement of Goods and related Services required for maintenance and urgent repairs to –

- procurement by Procuring Entity of any spare parts or related Services for the maintenance or repair of any public sector utility workshops (buses, locomotives, rolling stock, ferries, power stations or installations, telecommunication installations, gas installations, water installations, etc), so long as the value does not exceed the amount specified in (1).

- procurement of Goods and related services required for the maintenance and urgent repairs of national carriers not exceeding the amount specified in (1).

- procurement of any spare parts or related Services for the urgent maintenance or repair of any processing or production plant of public manufacturing industries (fertilizer, chemicals, steel & engineering, cement, petroleum, small and cottage industries, etc) if it is maintaining or repairing the equipment in its own workshops so long as value does not exceed the threshold specified in (1).

According to rule 71(2) the use of request for quotation Requests for Quotation do not need to be advertised in the newspaper.

Limitation for the use of this method for emergency procurement are the procuring entity should have to get at least three quotation otherwise they have to wait for at least three quotation.

Another limitation of RFQ is the value of procurement applicable for use of this method. This is usable for low value procurement.

There should be requirement of approval from HOPE before use of this method.

4.1.6 Use of the Direct Procurement Method

The Procuring Entity may use the Direct Procurement method for Procurement for Goods and related Services, Works and physical Services from one source without going through Tendering or other Procurement methods but shall under no circumstances be used to avoid competition or to favour a particular Person, Supplier or Contractor to discriminate among Persons, Suppliers or Contractors.

The decision to use this method shall be approved by the Head of the Procuring Entity or an officer authorised by him or her in order to ensure that there is no abuse and its use is restricted to the circumstances specified in these Rules.

4.1.6.1 Forms of Direct Procurement

Procurement shall be applicable in any of the following cases

(a) Direct Contracting; or (b) Additional deliveries and Repeat Orders; or (c) Variation Orders; or (d) Extra Work Order; or (e) Direct cash purchase; or (f) Force account.

When a Procuring Entity engages in direct Procurement according to this Rule, it shall prepare a description of its needs and any special requirements concerning quality, quantity, terms and times of delivery.

The Procuring Entity shall, in the first place, ask for a priced Offer from a Tenderer directly and afterwards shall be free to negotiate with the selected sole Tenderer.

There shall be no requirement for direct Procurement to be advertised.

A new contract for new Procurements or a revised contract incorporating an amendment to the existing contract in case of variations, extra works, repeat orders or additional deliveries shall be signed except for Procurement under Direct cash purchase and use of Force account.

This method allows the Procuring Entity to invite only one Supplier or Contractor to submit an offer under any of the following conditions –

- Procurement of Goods and related Services of proprietary nature which can be obtained only from the proprietary source, i.e. when patents, trade secrets and copyrights prohibit others from manufacturing the same item; or
- where the Procurement of critical plant components from a specific manufacturer, Supplier or distributor is a condition precedent to hold such manufacturer, Supplier or distributor to guarantee its project performance in accordance with the provisions of the Contract; or
- those sold by an exclusive dealer or manufacturer which does not have sub dealers selling at lower prices and for which no suitable substitute can be obtained at more advantageous terms,; or
- Procurement of perishable commodities such as fresh fruit, vegetables or other similar items on the basis of reasonable market price valid at the time of purchase; or

- Procurement of Goods and related Services under exceptionally advantageous conditions, provided that those are of the latest production, unused and are covered by manufacturer‘s warranty; or

- Procurement of agricultural products directly from the farmers when the Government determines the purchase price rate at a level in order to ensure reasonable price for the farmers and procurement of essential Goods for which the Government determines the purchase price rate; or

- Procurement of Goods and related Services, in special cases, from a Government-owned industry or factory using government own funds; or

- when the Government wishes to promote small scale local industries for specialized products as per specification approved by certain Governmental agencies and statutory bodies; or

- Procurement of spare parts of existing equipment where a change of Supplier would result in the Procurement of equipment, spare parts or Services which would not be interchangeable with the existing equipment, spare parts or Services, or

- emergency Procurement of Goods, Works and Services arising from natural disasters within the thresholds.

The threshold for this is Maximum Tk.5,000,000 (five million) in each Procurement up to annual aggregate amount of Tk. 50,000,000 (fifty million).

For Emergency Procurement above the thresholds as specified, the Government may, in accordance with Section 68 of the public procurement Act, resort to the direct procurement method for carrying out a procurement activity following the recommendation of the Cabinet Committee on Economic Affairs.

- Procurement of Goods, Works and Services of very urgent or essential nature such as catering services, ambulance services, transportation services, event management services, repair/maintenance services, plumbing services, carpentry services, masonry services, within the thresholds.

4.1.6.2 Extra Work Orders for direct procurement

The Procuring Entity may issue a Variation Order for Procurement of Works, physical Services from the original Contractor to cover any increase or decrease in quantities, including the

introduction of new work items that are either due to change of plans, design or alignment to suit actual field conditions, within the general scope and physical boundaries of the contract .

The Procuring Entity may issue an Extra Work Order to cover the introduction of such new works necessary for the completion, improvement or protection of the original works which were not included in the original contract, on the grounds where there are subsurface or latent physical conditions at the site differing materially from those indicated in the contract, or where there are duly unknown physical conditions at the site of an unusual nature differing materially from those usually encountered and generally recognized as inherent in the work or character provided for in the Contract.

Any cumulative Variation, beyond the 15% of the original contract shall be subject of another contract to be tendered out if the Works are separable from the original contract.

4.1.6.3 Direct Cash Purchase for direct procurement

The Procuring Entity may undertake direct cash purchase of low value Goods and urgent and essential Services such as maintenance, repairs, transportation and others in the Maximum Tk. 500,000 (five hundred thousand) but not exceeding Tk.25,000 (twenty five thousand) in a single Procurement.

The Procuring Entity may undertake any Purchase under this rule by an officer or a purchase committee, comprising maximum three members, formed by it for this purpose, depending on the nature of the purchase.

Payments for Purchase under this rule may be made by cash or cheque and a purchase order or contract shall not be required.

4.2 Emergency procurement of Bangladesh and that of a developed country

The developed country like USA, New Zealand, Australia have their procurement policy and also they have separate guideline for procurement during emergency. But Bangladesh has procurement policy of Public Procurement Rules 2008 but no separate policy for procurement during emergency.

In the PPR among five methods of procurement four methods have some relaxation to procure during emergency. But some methods have opportunity only for low value emergency procurement. Beside this prior approval of HOPE is necessary before using the method. So for procurement during emergency the procuring entity have less or sometimes no opportunity to

make it rapid or urgent. Another hindrance is approval process of the lowest bidder. After selecting the lowest evaluated bidder the procuring entity need to send it to approving authority, which is time consuming.

On the other hand the procuring entity of developed country gets different relaxation for procurement during emergency. Those are:

- They can obtain the necessary goods or services direct from suppliers.
- No written contract required.
- Ask suppliers to invoice after the situation has stabilized.
- Attempt to keep a note of what has been purchased.
- Act within existing delegated authority, where possible.
- If there is no existing delegated authority and no time to obtain an approval, then exercise good judgment and be prepared to justify the nature and extent of the procurement in the circumstances.
- If a procurement involves a major expense it is recommended, at the very least, that a verbal approval (followed up in writing) from an officer with sufficient delegated financial authority is obtained before making the commitment.

4.3 New Zealand Government Emergency Procurement Policy

The government of New Zealand classified emergency on two types

- Sudden on-set emergencies: This is where the emergency is unforeseen, or the magnitude of the disaster is greater than the pre-planning anticipated or results in the destruction of the response resources or infrastructure (e.g. the Canterbury earthquake). In these cases the initial intervention can be much more reactive. Example: a catastrophic earthquake which destroys emergency response resources (e.g. the civil defence facilities or supplies) or infrastructure to deliver emergency relief (airports, roads or port facilities).
- Slow on-set emergencies: This is where the possibility of a specific event is anticipated and planned for. In these cases relevant agencies will normally have put in place measures to mitigate the effects of the disaster and be better prepared to respond if it occurs. This normally involves pre-procurement and stock piling supplies. Example: annual cyclone season preparation in the Pacific results in agencies involved in

humanitarian assistance being prepared to provide immediate relief supplies through pre-purchased, pre-positioned stocks and an established coordination mechanism.

Emergency phases:

According to New Zealand government emergency responsiveness can be viewed at three different levels with regard to the immediacy of the threat or danger. The degree of flexibility in procurement process will be determined, to some extent, by the phase that the emergency has reached.

4.3.1 PHASE 1 – Immediate response: reactive procurement

In the event of a major catastrophe, such as the Christchurch earthquake in February 2011 (which resulted in a state of National Emergency), it is critical to react instantly to the conditions on the ground. This may involve getting medical equipment to help the injured and securing water, food and shelter for other victims. It could also involve immediately mobilizing staff, equipment or machinery or relocating service centers for major infrastructure provision e.g. power, gas, water and telecommunication, to new safe sites. In this scenario, a common sense approach to procurement must be adopted. Agency staff will be under significant pressure to respond immediately and must be enabled to do whatever is necessary and within their powers to help. Agencies are not therefore required to follow routine procurement procedure, but simply demonstrate sound reasoning and good judgment when acquiring goods or services. A file note should be made after the situation has stabilized.

Guidance

• Obtain the necessary goods or services direct from suppliers.

• No written contract required.

• Ask suppliers to invoice after the situation has stabilized.

• Attempt to keep a note of what has been purchased.

• Act within existing delegated authority, where possible.

• If there is no existing delegated authority and no time to obtain an approval, then exercise good judgment and be prepared to justify the nature and extent of the procurement in the circumstances.

• If a procurement involves a major expense it is recommended, at the very least, that a verbal approval (followed up in writing) from an officer with sufficient delegated financial authority is obtained before making the commitment.

4.3.2 PHASE 2 – Disaster relief: emergency procurement

At some point the necessity to react immediately will change to an ability to respond urgently. This will usually be when there is no further threat to loss of life, damage to major infrastructure or when a state of emergency is lifted. Agencies are permitted to forgo routine procurement procedures where it is justifiable on the grounds that the usual procedures would prevent the agency delivering the goods or services in time to bring effective relief.

Guidance

• Identify, specify and priorities the immediate procurement required to bring relief.

• Consider the operating environment and conditions 'on the ground'.

• If possible, find out what other government agencies and Non-Government Organizations are doing and, where possible, collaborate.

• Purchase direct from the most convenient suppliers. Whilst price will be a factor in deciding the selection of suppliers, the overriding consideration must be the immediate provision of relief.

• Always obtain financial approval to proceed prior to the purchase. Where appropriate, agencies could make a blanket approval to cover this stage of the emergency response if required.

• Consider options for sourcing, including what contracts may already be in place (All-of-Government supplier, panel contractor or syndicated contract). Even consider using another agency's suppliers where they have been appointed through a competitive process if that supports immediate delivery.

• Where there are no existing contracts, identify what quotes can be achieved quickly and what suppliers are able to deliver immediately. Verbal or e-mail quotes are sufficient. Where verbal make a note of the conversation.

• Check what assurance suppliers can give to delivering immediately, to the right location, the right quantity and quality at the right price.

• Advise suppliers that the purchase is being made as an emergency procurement to provide immediate relief and that a more competitive process will be used for any medium to long term solution.

• Where possible, consider alternative contract solutions, for example, short term lease of equipment rather than purchasing. This may allow you time to source a more permanent solution through a more competitive process.

• Confirm your agreement with the supplier in writing – an email is sufficient. You need include only the basics: what is being delivered, to what specification, when, where, by whom, the price and any other charges, for example freight and insurance.

4.3.3 PHASE 3 – Post-disaster reconstruction: accelerated procurement

Once an emergency situation has stabilized, and the response effort is directed towards post-disaster reconstruction and remediation, the purchase of most types of goods and services should return to routine procurement procedures. However, for certain types of procurement, for example, provision of critical infrastructure such as water, sewage treatment facilities and reconstruction of housing or land remediation, agencies may choose to follow an accelerated procurement process.

An accelerated procurement process is where an agency develops a process to fit the specific category of procurement and immediate needs. It will provide more flexibility and greater responsiveness, but sufficient rigour to allow for some level of competition and maintain governance and accountability for the spend. Where an agency develops an accelerated procurement procedure it must be prepared to justify any departure from routine procurement process.

Key considerations

The following key considerations may help your agency respond in an emergency:

• Clarify that the situation meets the criteria for treatment as an ‘emergency’ and that a flexible approach to procurement can be fully justified.

• Identify, specify and prioritize the immediate procurement activities that will bring relief.

• Consider the operating environment and conditions ‘on the ground’.

• Find out what other government agencies and NGOs are doing and, where possible, collaborate.

• Consider your duty of care to suppliers and take appropriate measures to ensure their safety.

4.3.4 Maintaining accountability

• When the emergency moves to Phase 2, consider establishing a governance and management structure to coordinate necessary procurement activities.

• In emergencies there is a higher risk of fraud, bribery, corruption and inflated prices. Be aware of these possibilities and take action to guard against them.

• Be aware of the possibility of conflicts of interest and manage them appropriately.

• Document your emergency procurements during or after the event.

• Clearly state in your records that the purchase was an emergency procurement and record the facts and circumstances justifying this approach. Documents must be filed in accordance with the Public Records Act 2005.

• Whatever procurement process has been adopted it is still subject to audit.

• For agencies subject to the Mandatory Rules for Procurement an exemption for emergencies is available under Appendix 1. However, the award of a contract over the appropriate value threshold should be published later (on GETS), including the fact that it was an emergency procurement.

CHAPTER FIVE: FINDINGS AND ANALYSIS

5.1 Data Presentation

The study is mainly based on primary data. Secondary sources were also used. For collection of primary data, the study mainly used survey method and then secondary sources were also used to support the survey data. For collection of survey data a questionnaire was designed. Opinions of 52 respondents all who are BWDB officials collected through the questionnaire. Among fifty two respondents there are two Superintending Engineer, fifteen Executive Engineer, twenty seven Sub-Divisional Engineer and eight Assistant Engineer. About 38 questions were put in the questionnaire among which 4 questions were about general information, 12 questions were MCQ type about procurement information and 23 questions were perception about present procurement procedure followed by BWDB on a scale of 1 to 5; where, 5 for "Strongly agree", 4 for "Agree", 3 for "Neutral", 2 for "Disagree", 1 for "Strongly disagree". The results are summarized below.

5.1.1 Manpower and logistics

Question: Do you have any training on PPR?

This question has been asked to get the perception of the respondents regarding knowledge of procurement. About 85% respondents have received three weeks training on PPR whereas 15% respondents have not yet received training on PPR. It is evident that most of procurement officers have required knowledge to carry out procurement function. It is represented in following Figure 5.1.

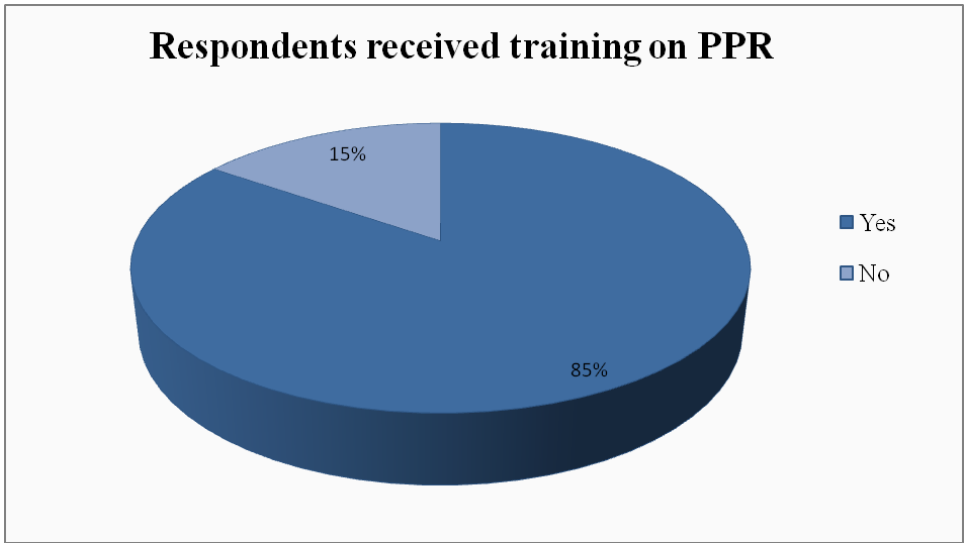

Figure 5.1 *Respondents received training on PPR*

Question: Do you have adequate manpower and logistics to execute emergency work?

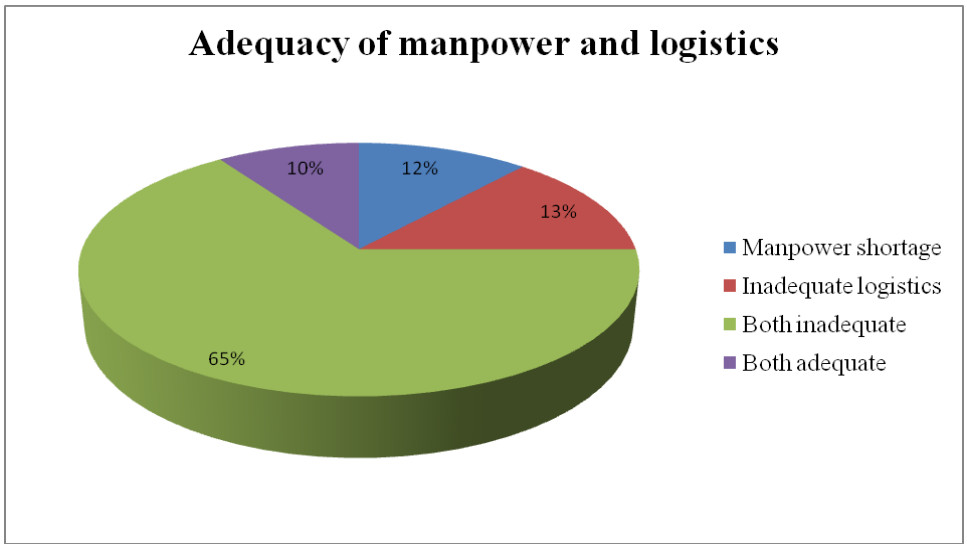

Figure 5.2 *Adequacy of manpower and logistics*

This question has been asked to get the scenario about manpower and logistics of PE. About 65% PE is lack of both manpower and logistics, 12% PE is lack of only manpower, 13% PE is lack of only logistics whereas only 10% PE has sufficient manpower and logistics. Due to manpower shortage data collection and reporting slow down and lack of logistics makes it difficult to reach the remote site. Different official has to share same equipment and it disrupts in getting information on due time. Assessment of requirement is important factor in emergency procurement. Delays in assessment cascade down to next step in procurement. Without assessment demand for budget cannot prepared. Again wrong assessment increase complexity and lengthen the process. After any disaster there should be provision for speedy deployment of manpower to respective location.

5.1.2 Emergency procurement policy

Question: Does PPR cover all aspect of emergency procurement?

92% respondents have expressed their opinion that PPR does not cover all aspect of emergency procurement, only 8% respondents have advocated for PPR regarding coverage of emergency procurement.

For emergency procurement under DPM, highest slab for any particular procurement is Tk. 5 million and yearly threshold for particular PE is Tk. 50 million. After natural disaster like AILA this threshold hinders emergency procurement under DPM. As value of procurement for some particular work was more than Tk. 5 million again yearly threshold for particular PE became more than Tk. 50 million.

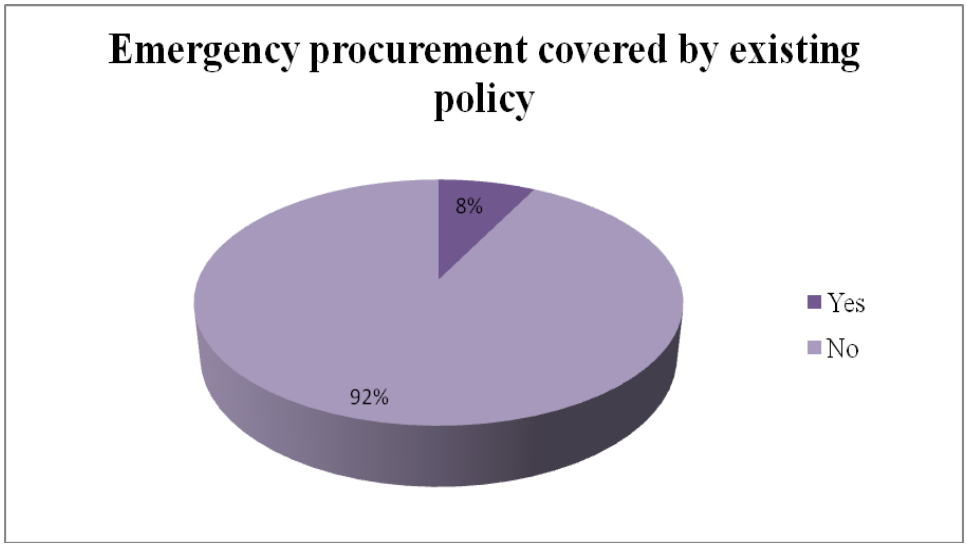

Figure 5.3 *Emergency procurement covered by existing policy*

As RFQ is a method for low value procurement, it does not have enough provision for any particular emergency procurement beyond Tk. 1 million.

LTM has threshold for any particular procurement Tk. 20 million. This method does not have any yearly threshold and has provision for tender submission time from date of issue of tender even 7 days and less. This method can be effectively used for emergency procurement but its drawback is selection process of contractor. As technical capability of contractor is not selecting criteria, contractor does not have enough, even no experience to execute the work. After receiving award some contractor just wasting time in search of suitable sub-contractor (although sub-contracting is not allowed) to earn some easy money. Some contractor starts work but unable to finish due to lack of financial or technical capability. In many cases only valuable time is wasted by this process.

OTM requires at list 10 days time for tender submission in emergency procurement. As time requirement is higher, OTM is less preferable for emergency procurement. Again competent

contractor selected through OTM can unable to execute work on emergency basis. Total work in hand for any particular contractor is not considered for selection. Excess work load hinder rapid execution.

For execution of emergency work there is no provision for financial or other incentive. For rapid execution of work contractor has to incur higher charge. To compensate higher charge there should be provision for financial incentive to complete the work in due time. Other incentive like preference for future contract could also motivate them.

Again there is no provision for advance payment. In case of emergency procurement advance payment with checks and balances could be excellent means of speedy execution. Timely payment of part work could also helps to speed up construction.

As Bangladesh government currently has no emergency procurement policy. There is lack of provision for emergency fund for disaster management. There should be budget allocation for emergency procurement to mitigate disaster, not only for relief and shelter of affected but also for rehabilitate important infrastructure. Because as early as we could provide normal life to affected people, less will be the suffering, less will be the expenditure.

5.1.3 Exaggerate assessment of requirement

Question: In emergency procurement exaggerate assessment of requirement leads to misuse of fund:

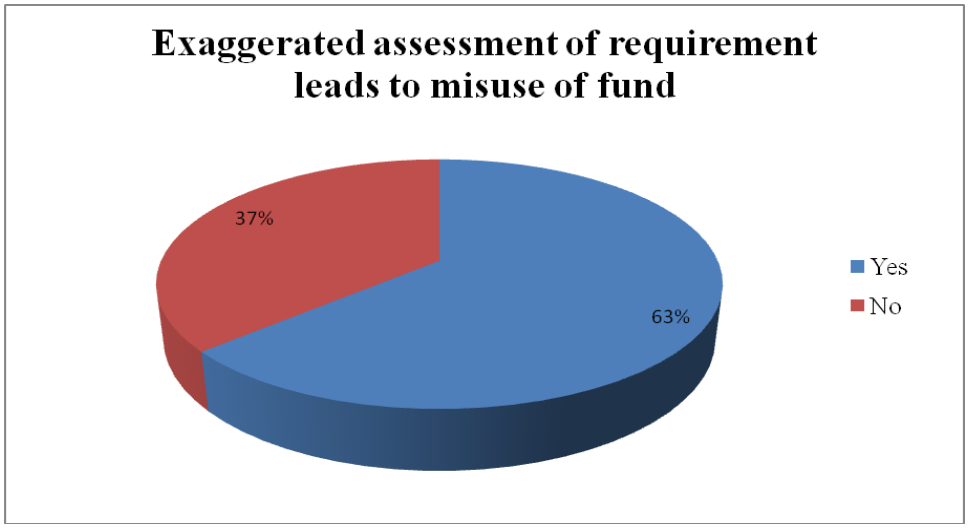

Figure 5.4 *Exaggerate assessment of emergency requirement*

63% respondents have expressed that assessment of emergency requirement is somewhat exaggerated. They placed inflated emergency requirement because most of the cases authority dose not allocate demanded fund. They argue that little inflated requirement can ensure adequate budget allocation. But this malpractice sometimes leads to misuse of government fund. Efficient real time flexible monitoring system should be in place to curb this malpractice. Again 37% respondents have said that there is no exaggeration of assessment of emergency requirement. They argue that on time required budget allocation could eradicate this problem.

5.1.4 Procurement method

Question: Which procurement method you usually follow for emergency procurement?

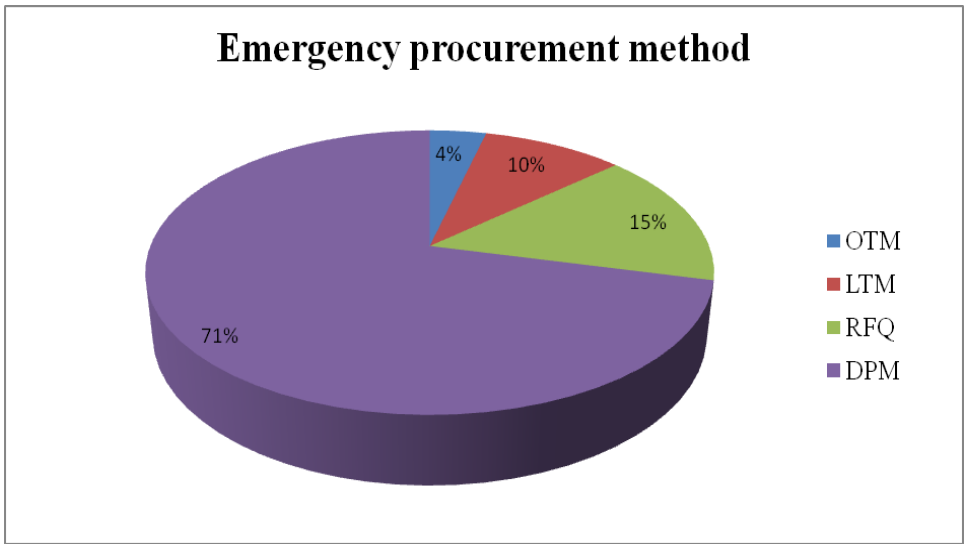

Figure 5.5 *Emergency procurement method*

71% respondents have opined that they select DPM for emergency procurement. Time is the main consideration for selecting DPM as emergency procurement. Normal practice for DPM is engaging contractor for work after getting verbal consent from higher authority. This is the quickest method to start work. To execute emergency work under DPM, after receiving proposal from Executive Engineer, Superintending Engineer has the authority to decide about the urgency of the situation. But administrative approval from HOPE is required to engage contractor and get budget allocation. 15% respondents have said that they select RFQ for emergency procurement. 10% respondents have said that they select LTM for emergency procurement. Only 4% respondents have advocated for OTM for emergency procurement.

Question: Why do you choose above method for emergency procurement?

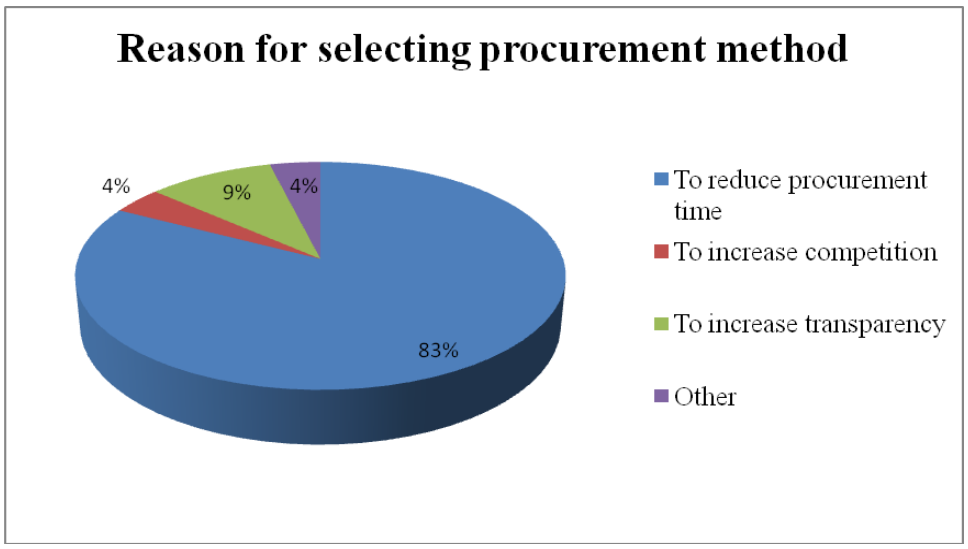

Figure 5.6 *Reason for selecting procurement method*

83% respondents have answered that emergency procurement method is selected to reduce procurement time. 9% respondents have said that emergency procurement method is selected to increase transparency. 4% respondents have expressed their opinion that emergency procurement method is selected to increase competition. Rest 4% respondents have expressed separate opinion about selection of emergency procurement method. Many respondents added that transparency and fair competition would be integral part with reduction of procurement. Again some respondent replayed that community involvement should be considered in implementing emergency work.

5.1.5 Views about emergency procurement efficiency

Question: How can you improve efficiency of emergency procurement?

54% respondents have expressed their opinion that efficiency of emergency procurement can be increased through procurement time reduction. 27% respondents have answered that efficiency of emergency procurement can be increased through procurement cost reduction. 11% respondents have opined that efficiency of emergency procurement can be increased through quality improvement. Rest 8% respondents have expressed separate opinion about efficiency improvement of emergency procurement. Many respondents added that time, cost and quality all three factors should have to consider in any procurement but time is vital for emergency

procurement. Extra costs will incur if time wastes in initial and implementation stage as scope of procurement may change. Again some respondent replayed that vulnerable embankment should have to repair before monsoon period and there should be adequate budget allocation for repair work.

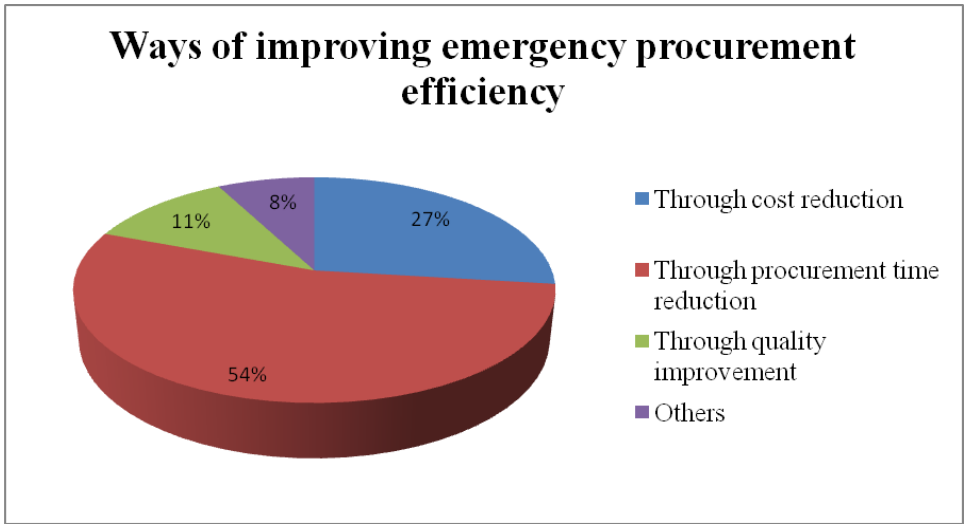

Figure 5.7 *Views about emergency procurement efficiency*

5.1.6 Reporting channel and response time

Question: In case of DPM, can you usually be able to take administrative approval before commencement of emergency work?

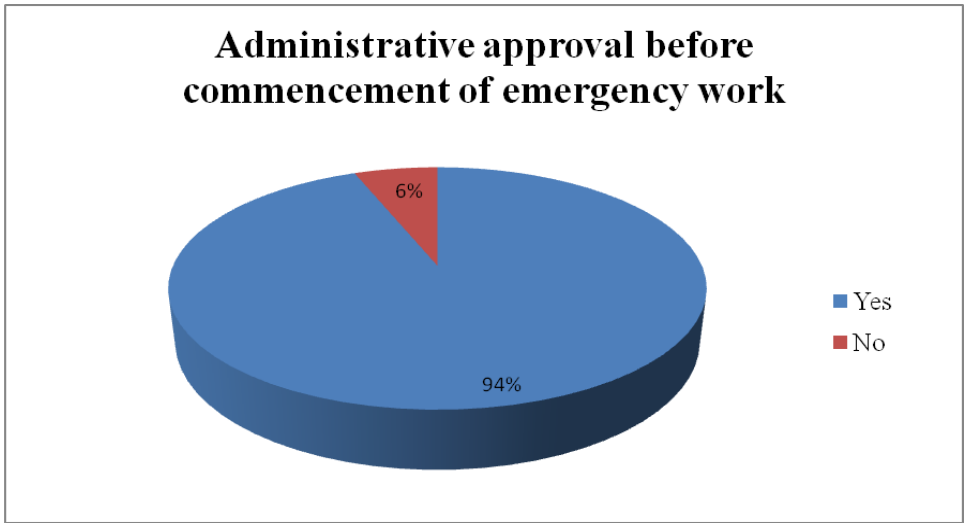

Figure 5.8 *Getting administrative approval before commencement of emergency work*

94% respondents have answered that they could not be able to take administrative approval before commencement of emergency work. Only 6% respondents have expressed their opinion that that they could be able to take administrative approval before commencement of emergency work. This indicate that procedure for emergency procurement is not systematic.

Question: At which stage of emergency procurement time is wasted?

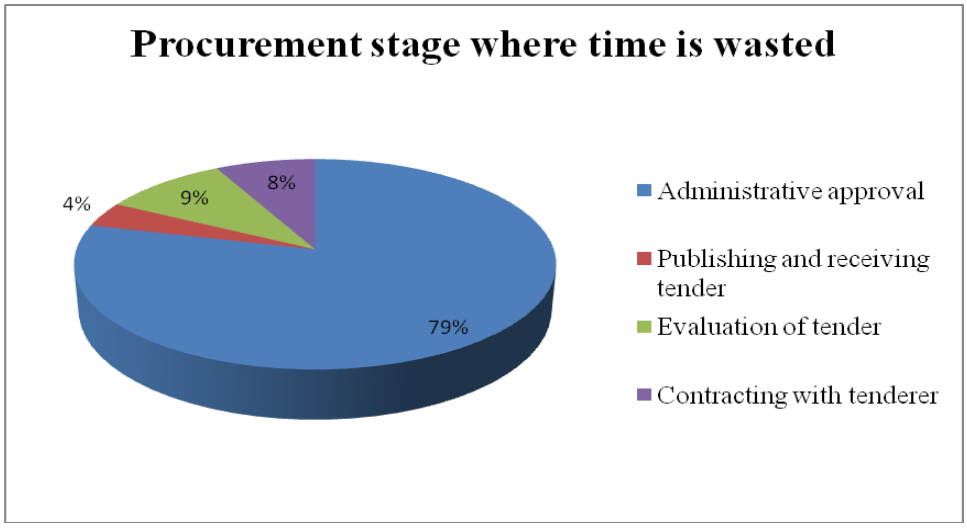

Figure 5.9 *Procurement stage where time is wasted*

79% respondents have argued that time is wasted to take administrative approval of emergency work. 9% respondents have said that time is wasted at evaluation of tender of emergency work. 8% respondents have answered that time is wasted in publishing and receiving tender of emergency work. Only 4% respondents have expressed their opinion that time is wasted at contracting with tenderer of emergency work. Many respondents say that time is wasted at administrative approval because most of the time there is no separate budget allocation for emergency procurement.

5.1.7 Coordination and delegation of authority

Question: Time overrun of emergency procurement can be reduced through:

73% respondents have opined that time overrun can be reduced through proper delegation of authority. 15% respondents have answered that time overrun can be reduced through streamlining administrative procedure. 8% respondents have said that time overrun can be

reduced through relaxing emergency procurement procedure of PPR. Only 4% respondents have expressed different opinion about reduction of time overrun. Many respondents say that authority should be delegated for smooth execution of emergency work and there should be separate budget allocation for emergency procurement.

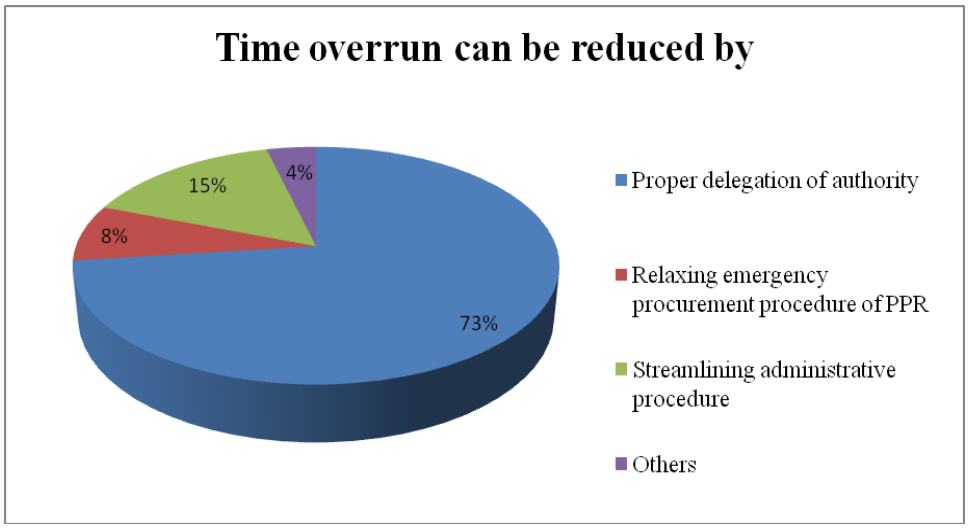

Figure 5.10 *Ways of reducing time overrun*

Question: Cost overrun of emergency procurement can be reduced through:

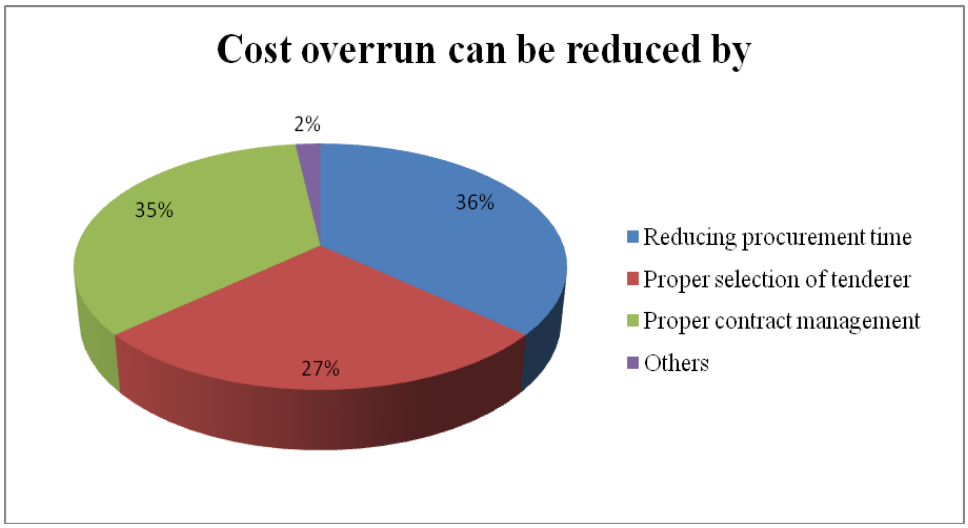

Figure 5.11 *Ways of reducing cost overrun*

36% respondents have argued that cost overrun can be reduced through reducing of procurement time. 35% respondents have advocated that cost overrun can be reduced through proper contract management. 27% respondents have expressed their opinion that cost overrun can be reduced through proper selection of contractor. Only 2% respondents have expressed different opinion about reduction of cost overrun. Cost overrun mainly occurs due to delay in work execution as scope of work changes with time. Lack of coordination among authority and lack of issue management between PE and contractor cause delay in decision making. Natural, political and local reasons like rainfall/bad weather condition, strike and labour shortage also cause delay in work execution.

5.1.8 Selection of competent contractor

Question: Most important criteria for selection of competent contractor for emergency procurement should be

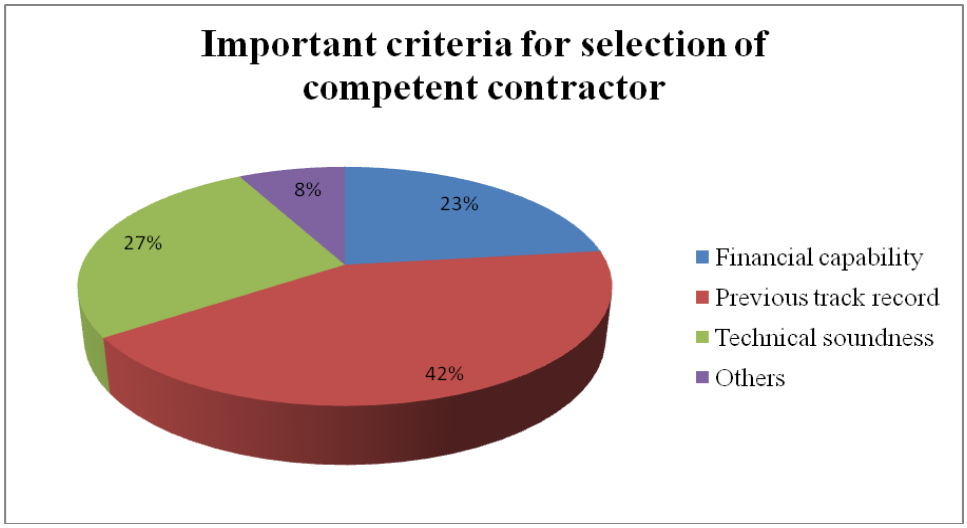

Figure 5.12 *Important criteria for selection of competent contractor*

42% respondents have argued that most important criteria for selection of competent contractor for emergency procurement should be previous track record. Participants have said that previous track record shows past performance status of contractor. Contractors having good track record be able to execute emergency work successfully. More over they have satisfactory technical skill and financial capability. 27% respondents have answered that most important criteria for selection of competent contractor for emergency procurement should be technical soundness. 23% respondents have opined that most important criteria for selection of competent contractor for emergency procurement should be financial capability. Only 8% respondents have expressed different opinion about selecting criteria for competent contractor for

emergency procurement. They argue that sometime contractors having sufficient technical skill and financial capability may not execute work by themselves. Some other contractors execute the work on behalf of officially selected contractor. Most of the cases these other contractors lack of adequate financial capability and technical skill. Result is delay in project implementation even sometimes project failure.

5.2 Analysis of perception of emergency procurement procedure of BWDB

For the analysis of perception about present emergency procurement procedure followed by BWDB, mean scoring ranking method using Microsoft Excel program were used to get the relative significance of the important factors.

5.2.1 Mean scoring ranking

After collecting the responses from the respondents on the perceptions towards the significance of factors for efficiency & effectiveness of emergency procurement procedure followed by BWDB, the mean score is calculated for relative ranking of those factors in descending order. Mean score ranking technique is widely used in construction management researches (Xu, et. al., 2010; Ibrahim et al., 2006) to determine the relative importance of variables.

The mean score (MS) for each factor for 5-point ordinal scale can be calculated the following equation (Chan and Kumaraswamy, 1996):

$$MS = \frac{\sum_{1}^{5}(f.s)}{N}$$

Where,

f = frequency of each rating for each factor;

s = score given to each factor by the respondents (ranging from 1 to 5); and

N= total number of responses concerning a particular factor.

5.2.2 Findings of factors affecting emergency procurement of BWDB

The ranking of the perception of emergency procurement procedure followed by BWDB based on the rating given by BWDB respondents is presented in Figure 5.12. Opinion about twenty three significant factors from BWDB respondents' view points are:

Highly efficient (MS = 2.94), mean score is between neutral to disagree. This indicates present procedure should have to modify to make it effective.

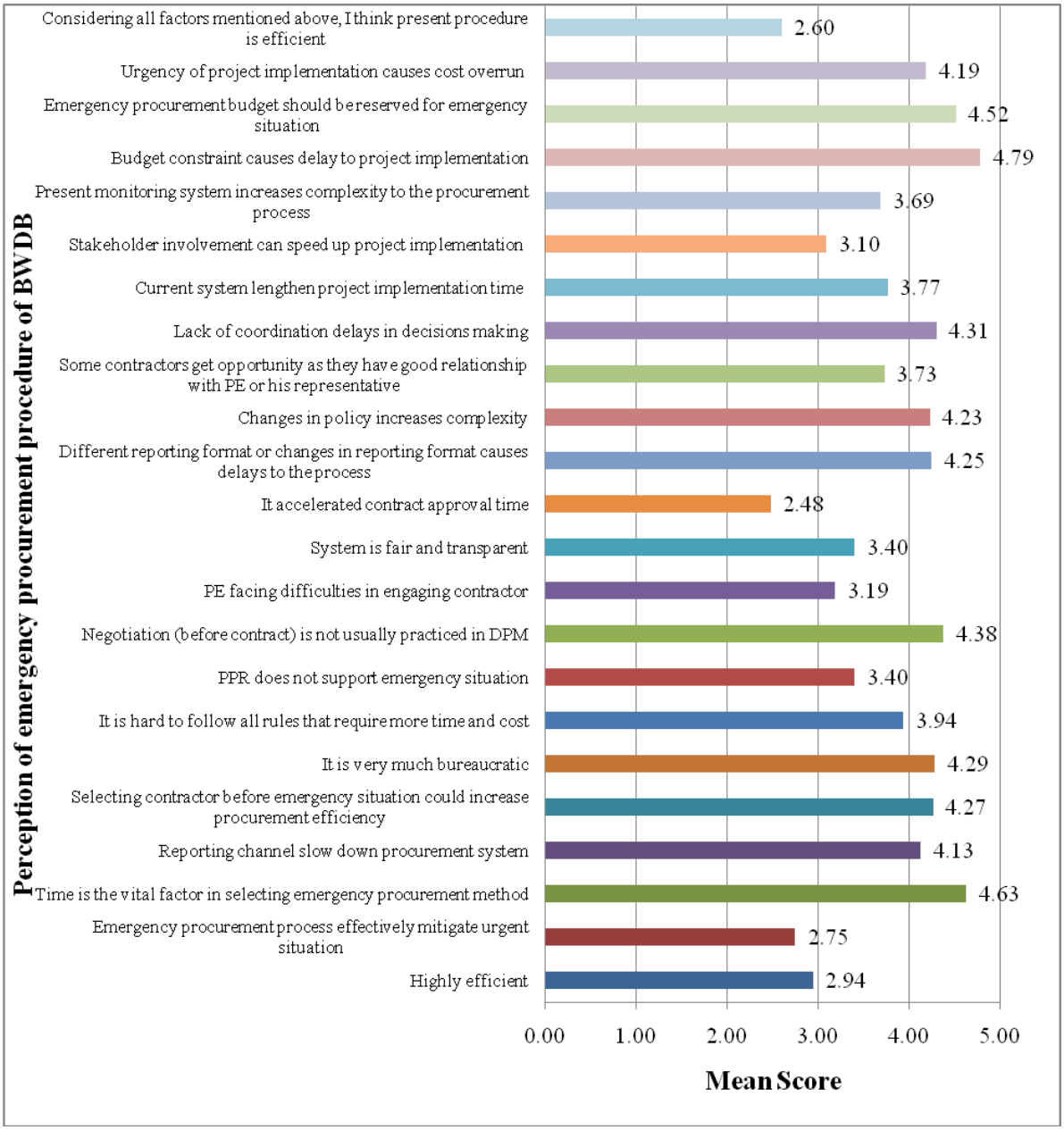

Figure 5.13 *Ranking of opinion about present emergency procurement procedure followed by BWDB*

Emergency procurement process effectively mitigate urgent situation (MS = 2.75), mean score is between neutral to disagree. It is obvious from responses that present procedure unable to mitigate urgent situation.

Time is the vital factor in selecting emergency procurement method (MS = 4.63), mean score is between strongly agree to agree. Respondents view point show that time is the controlling factor in selecting emergency procurement method.

Reporting channel slow down procurement system (MS = 4.13), mean score is between strongly agree to agree. Respondent's response suggests that reporting channel slow down procurement system. PE located distant from approving authority faces difficulties to get approval of procurement.

Selecting contractor before emergency situation could increase procurement efficiency (MS = 4.27), mean score is between strongly agree to agree. Respondent's opinion implies that reactive procurement like framework agreement can reduce hassle of new procurement during urgent situation. As stand by contractor selected through framework agreement can be engage within short period of time.

It is very much bureaucratic (MS = 4.29), mean score is between strongly agree to agree. Respondent's view indicate that way of decision making is not flexible to match urgent situation. Written approval is binding for any procurement and no provision for oral consent at any stage which could be regularized after situation stabilized.

It is hard to follow all rules that require more time and cost (MS = 3.94), mean score is close to agree. Response of participants implies that some rules and procedure have to amend or modify to make it workable in changing situation.

PPR does not support emergency situation (MS = 3.40), mean score is between agree to neutral. This indicates that yearly limit of expenditure in some method, advertising time in some other method and absence of workable guideline of framework agreement are some limitations of PPR.

Negotiation (before contract) is not usually practiced in DPM (MS = 4.38), mean score is between strongly agree to agree. Respondents have opined that they don't get enough time for negotiation. Again in some cases it lengthens procurement time without positive result.

PE facing difficulties in engaging contractor (MS = 3.19), mean score is between agree to neutral. Participant's viewpoint indicates that competent contractor to execute emergency work is not always available. There should be contractor development program for selected promising contractor to execute emergency work.

System is fair and transparent (MS = 3.4), mean score is between agree to neutral. Respondents argue that transparency could be enhanced through systematic monitoring of field level work.

It accelerates contract approval time (MS = 2.48), mean score is between neutral to disagree. Respondents argue that transparency could be enhanced through systematic monitoring of field level work.

Different reporting format or changes in reporting format causes delays to the process (MS = 4.25), mean score is between strongly agree to agree. Opinion of respondents shows that there is no uniform format for reporting. Reporting for emergency declaration, administrative approval, budget allocation, monitoring and progress are different; again sometime it changes in preference with key person with authority.

Changes in policy increases complexity (MS = 4.23), mean score is between strongly agree to agree. Respondents have expressed their opinion that uneven changes in policy upset PE. Time wastes to take decision.

Some contractors get opportunity as they have good relationship with PE or his representative (MS = 3.73), mean score is between agree to neutral. It represents that there exists some malpractice in selecting contractor mainly for DPM. Systematic monitoring can eliminate this.

Lack of coordination delays in decisions making (MS = 4.31), mean score is between strongly agree to agree. This result indicates that communication channel is not effectively working although e-mail and fax introduced. Electronic channel like web based integrated intranet can be introduced for better coordination.

Current system lengthen project implementation time (MS = 3.77), mean score is between agree to neutral. Respondent's view implies that delay in identification of requirement to contracting phase cascade down to project implementation phase.

Stakeholder involvement can speed up project implementation (MS = 3.10), mean score is between agree to neutral. Some participants have argued that local stakeholder plays an important role to provide labour, permit their land for construction of embankment, provide earth for embankment etc. As they are eager to get read off sufferings their concerns should take into account. But some participants argue that involving local stakeholder makes decision making process clumsy as concerns of all cannot take into account.

Present monitoring system increases complexity to the procurement process (MS = 3.69), mean score is between agree to neutral. Respondent's view shows that present monitoring is not systematic. Members of monitoring committee sometimes don't know about their inclusion into the committee. Again they have to perform their regular duties. Either there should be dedicated

monitoring team to deal with emergency work or field level office should have to empower with proper guideline for monitoring.

Budget constraint causes delay to project implementation (MS = 4.79), mean score is between strongly agree to agree. It is obvious from responses that budget constrain is a big hurdle to overcome. Again fund should be disbursed at due time for timely completion of project.

Emergency procurement budget should be reserved for emergency situation (MS = 4.52), mean score is between strongly agree to agree. Respondents view suggests that there should be separate budget allocation for emergency work. Emergency procurement information from previous years could be a good source for emergency procurement planning. Scenario analysis of past disaster could help to plan for future event.

Urgency of project implementation causes cost overrun (MS = 4.79), mean score is between strongly agree to agree. Respondents have expressed that accelerated procurement creates short time high demand. Naturally labour and material costs go up.

Considering all factors mentioned above, I think present procedure is efficient (MS = 2.60), mean score is between neutral to disagree. Respondents have replayed that current emergency procurement procedure is not efficient and effective to great extent. Some hurdles like reporting channel, delegation of authority, monitoring system etc. have to overcome by BWDB itself through modification of internal system and procedure. Some hurdles like threshold of DPM, short fall of LTM in PPR should have to amend by government.

5.3 Secondary data presentation

The collected secondary data (quantitative) of the seventy nine sub-projects, undertaken after cyclone AILA took place at south-western portion of Bangladesh about the emergency procurement and its limitations are given below.

1. Information about sub-projects undertaken after cyclone AILA at upazila Dakop of district Khulna.

(In Lac Taka)

Implementation year	***Number of sub-projects***	***Implementation cost***	***Average cost***	***Escalation of average cost from previous year***
2009	8	82.00	10.25	-
2010	7	568.40	81.20	692%
2011	6	2819.72	469.95	479%
Total	21	3470.12	165.24	

Table 5.1 *Emergency sub-projects implemented at Dakop upazila after AILA*

2. Information about sub-projects undertaken after cyclone AILA at upazila Koyra of district Khulna.

(In Lac Taka)

Implementation year	***Number of sub-projects***	***Implementation cost***	***Average cost***	***Escalation of average cost from previous year***
2009	21	192.50	9.17	-
2010	7	325.76	46.54	408%
2011	4	3201.36	800.34	1620%
2012	1	1969.00	1969.00	146%
Total	33	5688.62	172.38	

Table 5.2 *Emergency sub-projects implemented at Koyra upazila after AILA*

3. Information about sub-projects undertaken after cyclone AILA at upazila Assasuni of district Satkhira.

(In Lac Taka)

Implementation year	***Number of sub-projects***	***Implementation cost***	***Average cost***	***Escalation of average cost from previous year***
2009	7	65.00	9.29	-
2010	3	392.17	130.72	1307%
2011	2	1146.24	573.12	338%
Total	12	1603.41	133.62	

Table 5.3 *Emergency sub-projects implemented at Assasuni upazila after AILA*

4. Information about sub-projects undertaken after cyclone AILA at upazila Shyamnagar of district Satkhira.

(In Lac Taka)

Implementation year	***Number of sub-projects***	***Implementation cost***	***Average cost***	***Escalation of average cost from previous year***
2009	7	77.88	11.13	-
2010	3	225.00	75.00	574%
2011	3	819.00	273.00	264%
Total	13	1121.88	86.30	

Table 5.4 *Emergency sub-projects implemented at Shyamnagar upazila after AILA*

5.3.1 Findings from the quantitative data

According to quantitative data (secondary) of the seventy nine emergency sub-projects undertaken after cyclone AILA at Dakop, Koyra, Assasuni and Shyamnagar upazila of Khulna and Satkhira district stated above, it had been found that emergency sub-projects implemented at each of every upazila under different PE, average project cost at different upazila escalated from 408% to 1307% after first year from previous year, from 264% to 1620% after second year from previous year and 146% after third year from previous year. Overall scenario could be summarized in table 5.5.

Implementation year	***Number of sub-projects***	***Implementation cost***	***Average cost***	***Escalation of average cost from previous year***
2009	43	417.38	9.71	-
2010	20	1511.33	75.57	678%
2011	15	7986.32	532.42	605%
2012	1	1969.00	1969.00	270%
Total	79	11884.03		

Table 5.5 *Emergency sub-projects cost implemented under different PE after cyclone AILA*

Year wise breakup of emergency sub-projects implemented after AILA shows that as time elapse scope of work changes. Volume of work increased year after year due to regular tidal action. Yearly escalation of sub-projects cost was 678%, 605% and 270% during second, third and fourth year respectively from previous year after cyclone AILA. Total implementation cost

of all 79 sub-projects was Tk 11884.03 lac. If all these sub-projects could be able to complete during first year of AILA then total cost would be Tk. 767.09 lac, possibility of saving was Tk. 11116.94 lac (93.55% saving). If rest 36 sub-projects uncompleted after first year could be able to complete during second year of AILA then total cost would be Tk. 3137.90 lac, possibility of saving was Tk. 8746.13 lac (saving 73.60%). Cost increased as time passed by, simple breach of embankment resulting from tidal surge turned to extensive closure. Time wasted not only for emergency procurement system lengthen the process but also there was limited number of contractor having specific experience to construct closure or to close large and deep breach of embankment (which was critical nature of emergency work after AILA). Again implementation of this type of project was very risky due to natural inclemencies and all it had to bear by contractor. In many cases no contractor submitted tender and very few contractor submitted tender after several times publishing of tender notice. They quoted very high rate because financial loss incurred them would be very high if they fail to execute the work as all contractual risk belong to contractor. Again there was some incidence of collusive practice due to limited number of competent contractor that escalated project cost. Thus shortage of manpower and logistics required for assessment of requirement, insufficient budget allocation at early stage, remote location and marshy project site with two times tidal flow, high risk involve in implementation of project, lack of sufficient competent contractor, inadequate local labour and unpredictability of possible future event trigger high project cost.

CHAPTER SIX: CONCLUTIONS AND RECOMMENDATIONS

6.1 Conclusions

Emergency is mainly two types, sudden on-set emergencies: where the emergency is unforeseen, or the magnitude of the disaster is greater than the pre-planning anticipated or results in the destruction of the response resources or infrastructure (e.g. the Cyclone AILA). Slow on-set emergencies: where the possibility of a specific event is anticipated and planned for.

Analysis of primary and secondary data indicate that time is the essence of emergency procurement. Procurement system in BWDB is decentralised, which means that procuring entities are able to define and specify their own needs on a best way. Decentralised procurement is more time responsive. In practice, however, procuring entities have a tendency to exaggerate their needs that lead to unnecessary expenditure. In emergencies there is a higher risk of fraud, bribery, corruption and inflated prices.

Currently Bangladesh government has no policy for emergency procurement and emergency procurement methods of PPR do not cover all aspect of emergency procurement. Lack of manpower and logistics hamper appropriate assessment of emergency requirement. Quick deployment of manpower at urgent location is not always possible again sometimes it may not effective enough.

Emergency procurement delays due to poor reporting channel, absence of proper delegation of authority and lack of coordination. Too much bureaucratic system takes more time for decision making. Again reporting format is not uniform for emergency procurement, policy changes time to time in a arbitrary manner. Complexity arises for this uneven policy change and different reporting format.

Selection of competent contractor is another problem. In case of direct procurement PE has option to choose suitable contractor. Some contractors having close relation with PE get undue preference in some cases. Again for complex and risky work very little contractor comes forward to do the job. Some contractor starts work but unable to finish due to technical and financial problem. Sometimes they undertake more projects than they could handle and face several problems to finish work on time.

Budget allocation is another problematic area. There is no separate budget provision for anticipated emergency work. Again there is no national level policy for emergency work after natural disaster. Scarcity of fund holds back timely implementation of emergency work. Project cost increases due to late in implementation.

6.2 Recommendations

Results from analysis of both the quantitative and qualitative data suggest following recommendations to improve efficiency and effectiveness of emergency procurement in BWDB.

There should be plan for future emergency procurement from scenario analysis. Separate budget should be ready for emergency procurement. Provision for framework agreement with short notice call off option can effectively mitigate anticipated emergency procurement. In the event of national disaster initial intervention should be much more reactive. Government should formulate effective disaster management plan with emergency procurement policy.

Delegation of authority should be different for emergency procurement that could effectively accelerate procurement. Efficient communication channel such as web based intranet has to establish for better coordination. Streamlining of procurement process like electronic procurement can reduce unnecessary delay.

Negotiated Procurement is a suitable method of emergency procurement of goods, infrastructure projects and consulting services, whereby the procuring entity directly negotiates a contract with a technically, legally and financially capable supplier or contractor. In all cases where exist restrictions to a free competition among bidders and where restricted or negotiated procedure should be applied, proper justification has to apply to choose those procedures instead of the open procedure and to issue its opinion in a written form.

Real time efficient monitoring should be put in place to eradicate exaggerated requirement, curb misuse of government fund and enhance quality of work. Thus emergency procurement system should be efficient and effective as well as transparent and accountable.

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APPENDIX-A

Questionnaire for
Research on "Factors affecting the Efficiency and Effectiveness of Emergency Procurement in Bangladesh Water Development Board (BWDB)"

(Please √ or write, as appropriate)

General information:

1. Name (optional) : _____

2. Designation : ☐ CE ☐ SE ☐ EE ☐ SDE ☐ AE

3. Work Experience : ☐ Coastal Area ☐ Irrigation Project ☐ Haowr Area

☐ River Bank Protection Project ☐ Other (please specify) _____

4. Your total experience in public procurement:

☐ <5 years ☐ 5-10 years ☐ 10-20 years ☐ >20years

Procurement information:

5. Do you have any training on PPR? ☐ Yes ☐ No If yes, duration (days): _____

6. Do you have adequate manpower and logistics to execute emergency work?

☐ Manpower shortage ☐ Inadequate logistics

☐ Both inadequate ☐ Both adequate

7. Does PPR cover all aspect of emergency procurement? ☐ Yes ☐ No

8. In emergency procurement exaggerate assessment of requirement leads to misuse of fund:

☐ Yes ☐ No

9. Which procurement method you usually follow for emergency procurement?

☐ OTM ☐ LTM ☐ RFQ ☐ DPM

10. Why do you choose above method for emergency procurement?

☐ To reduce procurement time ☐ To increase competition
☐ To increase transparency ☐ Other (please specify) _____

11. How can you improve efficiency of emergency procurement?

☐ Through cost reduction ☐ Through procurement time reduction

☐ Through quality improvement ☐ Other (please specify) _____

12. In case of DPM, can you usually be able to take administrative approval before commencement of emergency work? ☐ Yes ☐ No

13. At which stage of emergency procurement time is wasted?

☐ Administrative approval ☐ Publishing and receiving tender

☐ Evaluation of tender ☐ Contracting with tenderer

14. Time overrun of emergency procurement can be reduced through:

☐ Proper delegation of authority ☐ Relaxing emergency procurement procedure of PPR

☐ Streamlining administrative procedure ☐ Other (please specify) _____

15. Cost overrun of emergency procurement can be reduced through:

☐ Reducing procurement time ☐ Proper selection of tenderer

☐ Proper contract management ☐ Other (please specify) _____

16. Most important criteria for selection of competent contractor for emergency procurement should be

☐ Financial capability ☐ Previous track record

☐ Technical soundness ☐ Other (please specify) _____

17. Your opinion about present emergency procurement procedure followed by BWDB:

Perception about present procedure	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly disagree**
Highly efficient	5	4	3	2	1
Emergency procurement process effectively mitigate urgent situation	5	4	3	2	1
Time is the vital factor in selecting emergency procurement method	5	4	3	2	1
Reporting channel slow down procurement system	5	4	3	2	1
Selecting contractor before emergency situation could increase procurement efficiency	5	4	3	2	1
It is very much bureaucratic	5	4	3	2	1
It is hard to follow all rules that require more time and cost	5	4	3	2	1

PPR does not support emergency situation	5	4	3	2	1
Negotiation (before contract) is not usually practiced in DPM	5	4	3	2	1
PE facing difficulties in engaging contractor	5	4	3	2	1
System is fair and transparent	5	4	3	2	1
It accelerates contract approval time	5	4	3	2	1
Different reporting format or changes in reporting format causes delays to the process	5	4	3	2	1
Changes in policy increases complexity	5	4	3	2	1
Some contractors get opportunity as they have good relationship with PE or his representative	5	4	3	2	1
Lack of coordination delays in decisions making	5	4	3	2	1
Current system lengthen project implementation time	5	4	3	2	1
Stakeholder involvement can speed up project implementation	5	4	3	2	1
Present monitoring system increases complexity to the procurement process	5	4	3	2	1
Budget constraint causes delay to project implementation	5	4	3	2	1
Emergency procurement budget should be reserved for emergency situation	5	4	3	2	1
Urgency of project implementation causes cost overrun	5	4	3	2	1
Considering all factors mentioned above, I think present procedure is efficient	5	4	3	2	1

Declaration*: This Questionnaire has been prepared for the purpose of dissertation project as partial requirement of Master in Procurement and Supply Management program run by the BRAC Institute of Governance and Development (BIGD) of BRAC University, and will be used only for academic purpose.*